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internet magazine

THE WORK OF GENIUS ISSUE

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- Webmasters' tips & tricks
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Online hotline to Tony Blair

Site of the Month

The bes search engines

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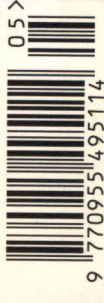
- Site management tools
- Multimedia add-ons
- Graphics editors

2 FREE CDs!

An Emap publication



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Demon	x	x	✔	£132.50	£132.50	£132.50
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Virgin Net	x	✔	x	£122.45	£122.45	£122.45
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[2]Compuserve prices are set in US Dollars and converted at prevailing exchange rate.
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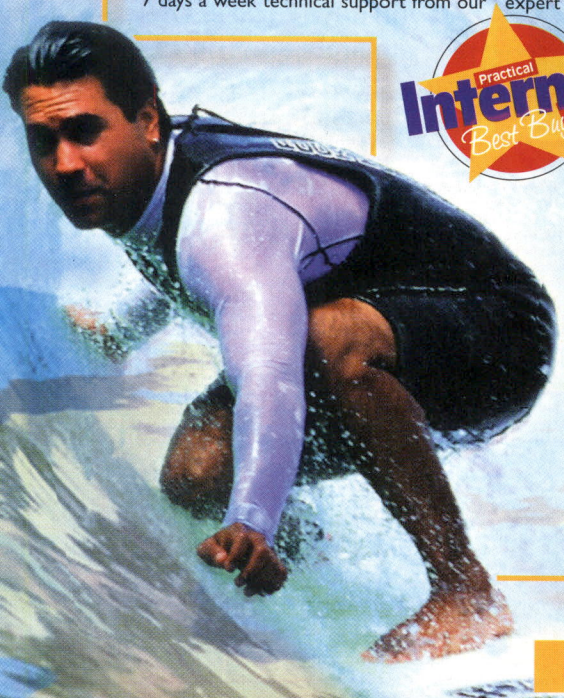

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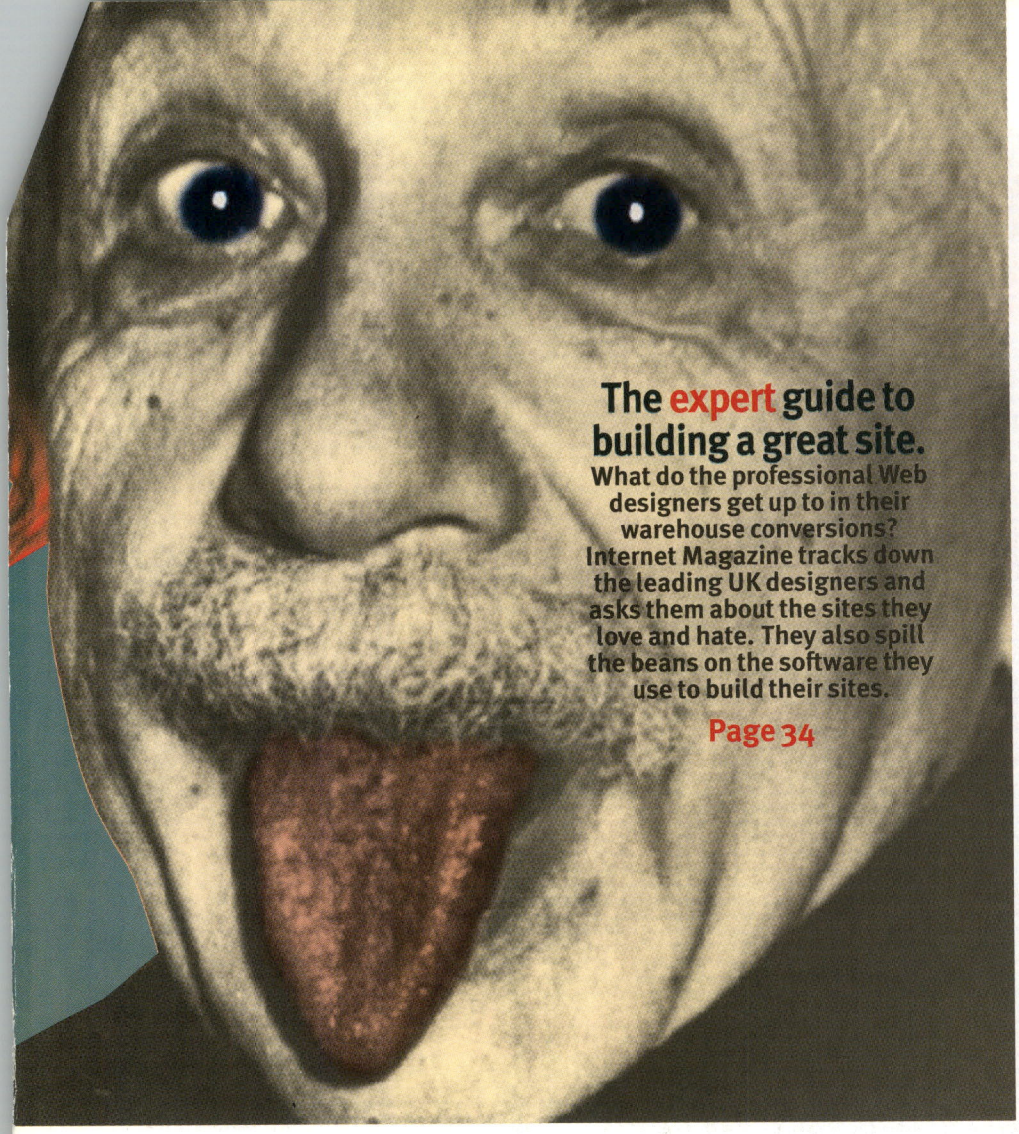


The expert guide to building a great site.

What do the professional Web designers get up to in their warehouse conversions? Internet Magazine tracks down the leading UK designers and asks them about the sites they love and hate. They also spill the beans on the software they use to build their sites.

Page 34

ON THE CD Become a Web Genius!

Our free cover CD is packed full of the best Web design tools there are on the market. From Dreamweaver through to PaintShop Pro, you'll find them all here

Page 8

Win, Win, Win

Check out our exclusive MSN competition and you and a close friend could be on your way to Paris. You'll be travelling on EuroStar and staying at a top hotel. All you have to do is answer a few simple questions.

Page 58

News 11

All the latest Internet news, including United News and Media's sudden interest in LineOne, the hot launch of WebTV in the UK and Bill's decision to leave channels out in the cold

21 **Expenses Paid** Industry jaunts

Services

7 **Who's who** How to contact us

136 **Faxback** Articles faxed direct to you

138 **Marketplace** The best small ads

Opinion 24

24 **The *Internet Magazine* interview**
The would-be first lady of the Internet, Esther Dyson, talks about what it's like to be mates with Bill Gates

27 **Mailbox**
More on the campaign for Free Local Calls

31 **Talking Webonomics**
Mike Bracken wants to know why the Net industry doesn't talk in plain English

162 **Smiley Culture**
Smiley embarks on a monthly guide to Internet users. This month, it's Direct Connection...

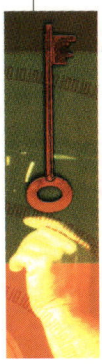
Features 34

34 **101% Genius – The expert guide to Web design**
We invited the great and the good of the industry to tell us how they build sites. Find out their trade secrets and what tools they use. And then check out this month's cover CD, where you'll find all the tools you need to create a genius of Webwork

44 **It's a matter of national security**
Do the proposed Government encryption policies threaten national security or are they the rumblings of a Web police state?

52 **Recorded Delivery**
We explain how to protect your email from unwanted snoopers

60 **Dial up and be counted**
The Government is making the most of the Web. There's loads of useful information out there, it's just a question of finding it. We present the Internet Magazine guide to getting the most from the Government's online resources



Site Surveyor 68

68 **Essential Viewing**
We've trawled the Web long and hard to bring you this month's must-visit sites

71 **Spotlight – the top search engines**
Find out which search engines are truly worth using

75 **Web site of the month**
Budget 98 wanted to break the Web traffic record. Find out if it succeeded

77 **How the top sites were built**
Shell and Ferrari team up for a scorching Formula One site, Argosphere gives away its educational software whilst British Magazines Direct sells online. The Builder gets his trowel out and forages for Web design gossip

internet magazine

May 1998, Issue 42

Leading US Web designer, David Siegel, offers tips on creating the ultimate sites, and top designers' recommendations the Zap! pager site and Macromedia's Flash; a sub-£100 Web cam – now that can't be bad; and Net.Medic gets a best buy award in this month's reviews

Tried & Tested 86

86 Hot Downloads
The best free stuff to download from the Web this month

88 Lab Test
Find the easiest way to move your files around the Net with our round-up of FTP clients

97 Net-It Central 2.0
The easy way to publish files on an intranet

98 Quick Cam Video Camera
Get live video on your site for under £100

98 E-Page
Automatically forwards your emails to a pager

100 Internet Scanner
Finds the security holes in your network and helps you fix them

102 Net.Medic
Tells you why your Net connection is slow and how you could speed it up

103 Claris Homepage 3.0
This HTML editor is strong on tying in databases to the Web but falls down in its HTML handling

104 Drumbeat
A site authoring tool that can handle Dynamic HTML. Sadly, a few too many bugs at the moment

Web Pro 110

110 Expert Help
Your questions answered by our panel of experts. How secure is ICQ, what to do with grungy GIFs and how to search for a search engine. Reader's top tip wins a Vivitar camera

117 Dealing with the new media professionals
If you want an online advertising strategy, sometimes, it's worth getting in the professionals

123 Setting up shop on your site
How to build yourself an online outlet with the help of Microsoft tools

131 Making your site dynamic with JavaScript
Expert advice on how to use JavaScript to dynamically update your site

Service provider tests 148

148 Service provider Labs tests
102 ISPs line up in our biggest performance test...ever

154 Pick a provider
A comprehensive listing of the UK's Internet service providers

Putting the power into the Internet

A couple of months ago we covered an interesting technical development by Nortel and NorWeb. Their Digital PowerLine service allows data to be transmitted over power cables. This means we could be accessing the Internet without having to plug extra cables put into our homes.

Now, the two companies have announced a joint venture to market the technology. The snappily titled NOR.WEBsets out to sell the technology to power companies, which will, in turn, sell the service to their customers.

Strangely enough, the response so far has been somewhat muted. Only one UK electricity company has committed to using the technology. Unsurprisingly, this is Norweb, whose parent company, United Utilities, owns half NOR.WEB. Other UK power companies haven't shown much interest in offering this potentially lucrative service to their customers.

The benefits of the service seem obvious: it's fast (around 1Mbps) and it's constantly on. As the electrity cable is already installed, Net access could be sold at a lower price than a leased line.

Contrast this with the situation in the US,where there are a variety of systems offering high band-width, low cost connections such as @Home. @Home boasts high speed connections (between 1,500 to 3,000 Kbps) using a Cable TV connection and it costs around $50 a month. So far, no cable TV companies in the UK are offering a cable modem service to their customers, although several are apparently thinking about it...

If this country really wants to get wired, it's time the people who own the wires start realising what they could really do with them...

Richard Baguley
Technical Editor
Internet Magazine

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ABC **Audited average monthly circulation: 53,056 (Jul–Dec 1997)**

Looking for the UK's Best Value provider?

Why go any further?

(Page 3 has everything you need)

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THE UK'S BEST VALUE PROVIDER

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get the best from

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How to use the CD

The interface for the CD is written in HTML which means you can open it in any browser. Just open up your browser, select the File Open option, access your CD drive and then load up the file **index.htm**.

If you don't have a browser, fear not, we've thoughtfully included the latest versions of Netscape Communicator and Internet Explorer on the CD. You'll find Netscape Communicator 4.04 in the following directories:

software\windows_\browsing\netscape\win16 (for Windows 3.x)
software\windows_\browsing\netscape\win32 (Windows 95)
software\mac\browsing\netscape404 (Mac)

Or you can install Microsoft's Internet Explorer 4 from the following directories:

software\windows_\browsing\msie4\ie4_16 (Windows 3.x)
software\windows_\browsing\internet explorer 4 setup (Win 95)
software\mac\browsing\msie4 (Mac)

Help, I can't run the software

If you have problems installing any of the software on the CD direct from the CD interface try the following:

1 Copy the folder containing the software you're interested in from the CD onto your hard disk.
2 Then run the set up program from your hard disk.

Disclaimer

Please note: manufacturers will not support demo software and you install these programs on your machine at your own risk. We have tested them for viruses and corruption and at time of shipping these all checked out fine.

Internet Magazine and EMAP Apex cannot be held responsible for any problems arising from their use, or for the failure of any programs to run correctly.

You'll find that most of the software on this CD is shareware. Shareware developers put in a lot of work for little return and you should register software you continue to use after the evaluation period. Charges for shareware are usually very modest and registration entitles you to customer support and free or cheap upgrades.

Don't miss out on the next two issues of Internet Magazine

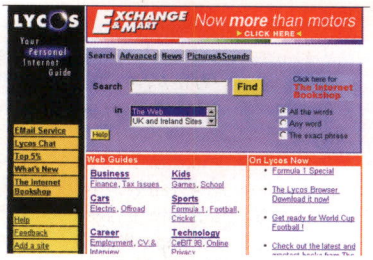
June CD The complete collection of Web graphics tools. From royalty free images through to image editors we've got them.
OUT 24 MAY

July CD The complete collection of Web multimedia tools. Create a truly interactive Web site with this software.
OUT 24 JUNE

Featured Packages

Check these out first...

Lycos

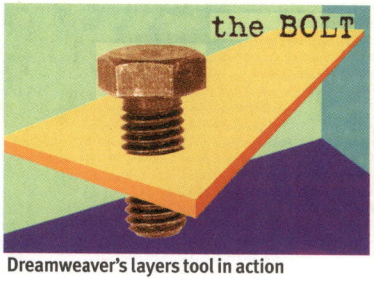


On this CD you'll find a special Lycos version of Internet Explorer 4.0 (Windows 95 only). Once you've installed the browser you'll have access to the Lycos search engine and Internet navigation centre. Check out the Lycos Web site for a comprehensive guide to what's on the Net in the UK. You'll find news, finance, business, jobs, chat and free email.
www.lycos.co.uk

Become a Web Genius

To go with this month's cover story, The Expert Guide to Web Design (see page 34), we've got masses of software designed to help you create the perfect Web site.

The package many of our experts use is Macromedia's Dreamweaver. On the CD you'll find trial versions of this excellent Web site creation tool for both Windows 95 and Macintosh machines. If you don't take to Dreamweaver, you could check out one of the eight other HTML editors on the CD (you'll find them in the Web Editors section).



Dreamweaver's layers tool in action

There's no way you have an excuse for flabby GIFs with the number of image manipulation tools we've got on this CD. Find out how to turn your GIFs into animations with GIFmation and squash your images down to size with JPEG Optimiser. And what Web toolkit would be complete without the excellent graphics editor, PaintShop Pro?

This month's hottest downloads

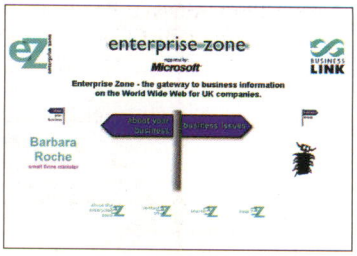
From our hot downloads pages (p86) we've picked the most valuable software and put it on the CD. Art-O-Matic is a fun tool which gives you 3D images in seconds. You simply drag the objects into a viewing window where you can rotate, move and resize them. If you're after the latest in Web design tools try out Agile.

Test out the top FTP clients

This month's Labs test (see page 88) picks the top Net file transfer tools. Not only can you read all about them but you can also test out many of the products from this CD. Visit the Utilities section of the CD and you'll find copies of the Windows 95/NT version of Internet Neighbourhood and Mac versions of Fetch and Anarchie.

Enterprise Zone

You know there's a mass of useful information business information on the Web, it's just a question of finding it. The Enterprise Zone was dreamt up by the DTI and it brings together useful business sites. Each site is rated on the basis of ease of use and its value as a business resource. On the CD you'll find an offline version of the site, so you don't even have to rack up your phone bill.
www.enterprisezone.org.uk



your cover CD

This month's must-have software

They're new, they're feature-packed and you don't have to rack up your phone bill downloading 'em

Web editors

Dreamweaver Powerful Web authoring tool from Macromedia (Win 95/Mac)
Agile HTML editor that supports v 4 browsers (Win 95/NT)
Alma Page Generator Take your database straight onto the Web (Win 95)
Web Hotspots Instant imagemaps (Win 95)
MapEdit Imagemap editor (Win 95/3.x/NT/ Mac)
HotDog Serious HTML editor (Win 95/NT)
HomeSite Easy to use HTML editor (Win 95)
Webber 32 Powerful HTML editor (Win 95)
HTMLed32 Effective but simple HTML editor (Win 95/NT)
AceExpert Advanced HTML editor (Win 95)
Universal Animator Turns any application into an animation frame generator (Win 95/NT)
Animagic Turn stills into animations for the Web (Win 95)
GIFmation Easy to use animator (Win 95)
Myrmidon Turns Mac documents into Web pages (Mac)
WebWeaver Popular HTML editor (Mac)
BBEdit Classic HTML editor (Mac)
BigBrother Checks your hyperlinks (Mac)
GifBuilder Animated GIFs (Mac)
Page Spinner Web site builder (Mac)

Graphics tools

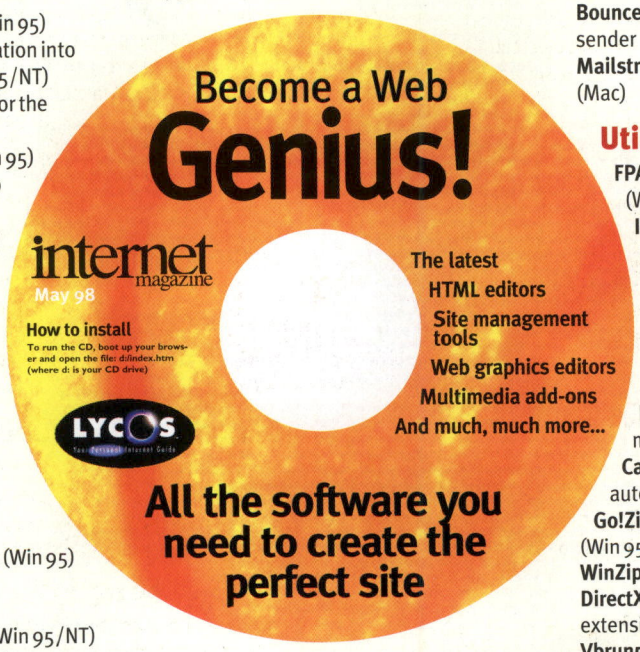
Infini-D 4 3D graphics application (Win 95/Mac)
Xara Webster Image editing suite (Win 95/NT)
Xara 3D Quickly make 3D text objects (Win 95)
HVS JPEG Plug in for paint software (Win 95/NT/Mac)
JPEG Optimiser Squash your JPEGs (Win 95/NT)
Art-O-Matic Fun 3D software (Win 95)
PaintShop Pro Top image-editing tool (Win 95)
Universal Animator Turns any app you can print into an animation frame generator (Win 95/NT)
Animagic Turn stills into animations (Win 95)
GIFmation Easy to use animator (Win 95/Mac)
Web Hotspots Create imagemaps (Win 95)
Jiffy Pix Graphics utility (Win 95/3.x)
IfranView32 Graphics file viewer (Win 95)
HVS Animator Lite GIF animation (Mac)
Graphics Converter Change between graphics formats (Mac)
GifBuilder Create animated GIFs (Mac)

Multimedia

RealPlayer 5 Live audio and video on the Web (Win 95/NT/3.x/Mac)
Illuminatus Multimedia presentations (Win 95)
Virtuosa Virtual hi-fi system (Win 95)
Authorware Courseware authoring (Win 95)
EMU Live Powerful broadcast tools (Win 95/NT)
GoldWave Sound editor (Win 95/NT)
SSEYO Koan MIDI on the Web (Win 95)
SoundEffects Recording/editing software (Mac)

Bits 'n' Pieces

Enterprise Zone Resources for small and medium-sized businesses (Win 95/3.x)
GameSpy Access multiplayer games (Win 95)
Kali Popular gaming engine (Mac)
Greetings Cards Interactive greetings cards (Win 95)



SW 2000 Countdown to the year 2000 (Win 95)
STD Decoder Database of UK and International phone codes (Win 95)
ICQ Excellent chat software (Win 95/NT)
ChatNet Simple chat client (Mac)
Backgammon Backgammon playing around the world (Mac)
MacIRC IRC software (Mac)

Browsing

Netscape Communicator v4.0.4 Includes Navigator (Win 95/3.x/Mac)
Internet Explorer v4.01 It'll take over your desktop if you let it (Win 95/NT/Mac)
IE Power Toys Add-ons for IE 4 (Win 95/NT)
WebTurbo Supercharged surfing (Win 95)
WebEarly Speeds up browsing (Win 95)
Unmozify Cache utility (Win 95)
InfoCourier Create Windows .exe file and browser combo (Win 95)
Web Retriever Save Web text and graphics (Mac)
NetJumper Loads the links from any page (Mac)

Email

SmartMail Professional email system (Win 95)
Eudora Light Freeware version of popular mail package (Win 95/3.x/Mac)
SpammerSlammer Fight spam (Win 95)
Spam Exterminator Don't accept spam (Win 95)
DeadLetter Add-on for Eudora (Win 95)
Spam Buster Just say no to spam (Win 95)
Bounce Spam Mail Send spam back to its sender (Win 95)
Mailstrom Another way to handle your email (Mac)

Utilities

FPArchie Trawl the world's Archie sites (Win 95)
Internet Scanner Makes sure your network is safe (Win NT)
VET Anti-virus software (Win 95)
FileHound Looks after your downloads (Win 95)
Internet Neighborhood Browse your local system and FTP sites (Win 95/NT)
Net.Medic Internet activity and health monitor/reporter (Win 95)
Catch-UP Scanner Updates your software automatically (Win 95/3.x)
Go!Zilla Easier and faster downloads (Win 95/NT)
WinZip Crucial archive file manager (Win 95)
DirectX5 Latest version of multimedia extensions for Windows (Win 95)
Vbrun5 Visual Basic 5 runtime libraries for Windows (Win 95)
Fetch Great file retriever (Mac)
Netscape Defrost Sorts out common Navigator problems (Mac)
FTP Client Transfer files between Macs and FTP servers (Mac)
Anarchie Most popular Mac FTP tool (Mac)
MacTCP updater Update your version of TCP (Mac)
Disinfectant Anti-virus software (Mac)
Apple QuickTime Audio/video/animation player (Mac)

Web site links

You'll also find hotlinks to a mass of HTML editing tools, HTML tutorials and Java resources.

BT

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Plan 180 allows you to try out BT Internet for just £4.70 a month (inc VAT); it includes three hours Internet access and your own e-mail address.

Plan Unlimited (£11.75 inc. VAT per month) allows you unlimited access, five e-mail addresses and 5mb of web space. What's more, both modem and ISDN connections are available for the same price.

BT Internet offers fast and reliable connections with excellent network capacity, fast download times and easy-to-install software.

Enjoy more freedom. Connect with BT Internet today.

To get your free software

call **Free***fone 0800* **800 001** now

Please quote reference: Inter1

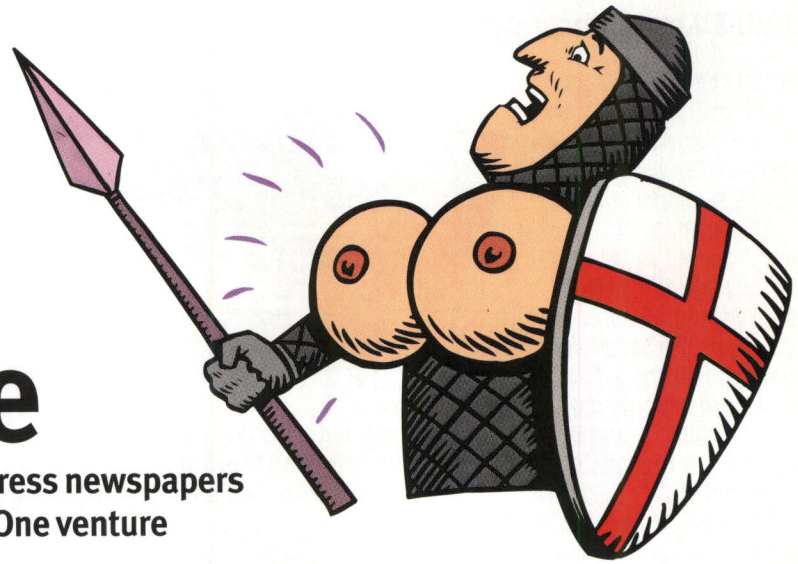
BT Internet

www.btinternet.com

If you are already using the Internet, register with us today at www.btinternet.com.

Unused time cannot be carried forward with Plan 180. Charges for calls and new ISDN or phone lines are additional. VISA or MasterCard required.

news



Express delivery for LineOne

United News and Media, owner of Express newspapers has bought into the Murdoch/BT LineOne venture

Flashback, April 97: Hearing of the launch of LineOne, the BT backed online service containing only Murdoch content, the then head of CompuServe stated: 'There is no publisher on earth that can create a compelling online service with only its own intellectual property."

Twelve months later, this prophesy has been realised. United News and Media, after selling its regional papers for £450 million, has taken a one third stake in LineOne (a figure not unlike £10 million has been bandied around). This leaves us with the delicious prospect of the *Daily* and *Sunday Express* newspapers cuddling up to rivals *The Sun* and *News of the World* on the LineOne menu. However, United's only major online product, the *Daily Star* Megastar site, is likely to find a warm reception over at LineOne.

The move will further speculation that BT, now one third owner of Springboard Internet, the holding company for LineOne, is distancing itself from the online service. Although not exactly ailing, with a 70,000 user base, LineOne pales into comparison against the dominance of AOL. And with CompuServe now re-aligning itself in the professional market, Virgin aggregating content for its 100,000 users and BT going its own way with its Connect to Business service, the market for online services which offer Internet provision is getting tight.

And to make matters worse, rum-ours circulating within BT suggest that the telecoms partner is looking to distance itself from LineOne. One key player within BT told us that the Internet division within BT has recognised that the crossover between LineOne and BT is too damaging to BT Internet.

Alarmingly, the new boss of BT's Internet services has already indicated his willingness to grow BT Internet membership as a top priority. Yet this view was officially refuted by Neil McDonald, head of the BT Internet service: "LineOne is an OSP (online service provider), BT Internet provides access."

Whatever the outcome, exactly how the United content – which also includes PR Newswire, Miller Freeman magazines and a 29 per cent share in Channel 5 – will fit into LineOne's service is yet to be decided. As one United employee outlined to us, "the money men have done their sums, we don't know much else."

Your super soaraway online service
www.lineone.net
Talk about a Web presence
www.unm.com
Look at the proprietary service on that! www.megastar.co.uk

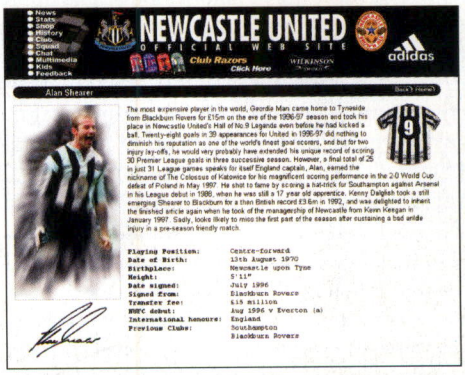
NET ACCESS

Spam the Board

After a disastrous few months on and off the field, the Toon Army is looking to the Net to win back its fans

With two directors leaving in acrimony and the team's continued slip down the table, you would have thought that giving Newcastle United fans, the Toon Army, a vehicle for venting their feelings would not have been a great idea. Think again.

The new NUFC web site, designed by Planet Online, contains the usual mixture of club and player details, match reports and ticket information. But this particular footie site has a difference – it's also an ISP.



From early May, the Toon Army will be able to buy their Internet access from the site. The £10 per month service will be built around IE4. The installation CD will also contain goals and video action from recent matches, a Net primer and an NUFC Web interface. The site, meanwhile, will offer live audio commentary on matches, starting with the Arsenal away fixture, and daily audio and video feeds. John O'Connor, sports director at Planet, claims that online ticket sales and live broadcast matches are likely to appear in the future.

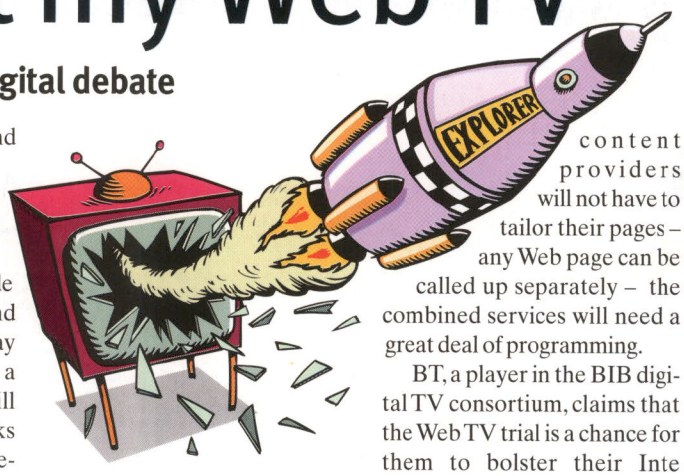
This is Planet's 16th club site. Aston Villa is set to be next.

Any comments on that Marbella video? www.nufc.co.uk
Next, Doncaster. Not! www.theplanet.net

OVERHEARD THIS MONTH...
18 March this year marked the first proper debate about the Internet in the Houses of Parliament. Amid the soundbites and cat-calling, across the next three pages you'll find out just how much MPs know about the Net...

I want my Web TV

Web TV muddies digital debate



WebTV, the much heralded and vastly overpriced TV and Internet company bought by Microsoft last year, is to debut in the UK, courtesy of BT.

The set-top hardware, made under license by Philips and Pace in the UK, will find its way into selected UK homes on a trial basis. These boxes will contain the Web TV Networks decoder software, and will present Internet information in a separate window on any connected TV.

However, Microsoft will have to work with many content providers to help them tailor their Net content for Web TV. No details are yet available as to what this special content will be.

The theory, and at the moment it's just that, is that TV broadcasters embed information within their programmes that link the content to Web pages and Internet information feeds. The box then marries the two feeds and presents them to the user within a single interface. Although many pure Web content providers will not have to tailor their pages – any Web page can be called up separately – the combined services will need a great deal of programming.

BT, a player in the BIB digital TV consortium, claims that the Web TV trial is a chance for them to bolster their Inte -net provision to the home. Microsoft claims the venture gives them a chance to assess the UK market.

Can you say synergy?
www.webtv.com/ns/about/jobs_marketing.html
The Welcome Web TV release
www.netchannel.co.uk
Some construction! **www.bib.co.uk/**

CHANNELS

Bill blows cold on Channels

Microsoft chief reveals that the much derided channels will be left out of subsequent versions of Internet Explorer

The Web is the new TV! This was the pundits' mantra just a year ago, when Microsoft was busy turning itself into a meejah company and companies like Marimba and Pointcast were taking on millions in venture capital by proclaiming the push revolution. Oh well, at least it was good while it lasted.

In last month's address to the US Senate, perhaps the most interesting moment came when Bill Gates unexpectedly revealed that Microsoft would ditch its channel bar in version 5.0 of Internet Explorer. Although Microsoft has refused to comment further about its active channel policy, it has been widely panned by content providers and users alike.

The ideas behind the active channels were simple. Existing Web sites would add moving text and images via the Channel Definition Format (CDF)and that the content would look like regular TV channels. The information would be pushed out to subscribers constantly. Initially, there was tremendous interest from content companies including Virgin, the BBC and *Vogue*. However, the impracticalities of the active desktop soon became obvious.

For anyone without a constant connection to the Net, the service was expensive and time-consuming to download. As content companies just pushed out the channels to subscribers, they couldn't assess how often it was looked at. What's more, many users complained that the active desktop slowed IE4 to a crawl and made their PCs unworkable.

Despite incessant marketing spin from Microsoft, even channel owners have derided the active desktop: "Push has disappointed. It's a nice touch, but it doesn't give us anything new," claimed the Electronic Telegraph's Hugo Drayton. One anonymous channel producer was more blunt: "Nobody really cares about them."

It seems that the active desktop is set for a slow death. Yet Microsoft, possibly wary of the political problems should it be seen to be pre-announcing IE 5.0 while the DoJ continues its investigation, simply refuses to make an official statement. While behind the scenes Microsoft accepts that channels are on their way out, not even the channel owners have been notified. Just as well no one uses them.

And if you want to manage your channel, just follow this easy to remember URL
http://premium.eu.microsoft.com/products/developer/devonly/prodinfo/msdnprod/sdk/inetsdk/help/content/adding_channel.htm

We want one of these!

The Sharp MC-G1 looks great and, at nearly half the size of the Nokia 9000 Communicator, it really can fit in your pocket. It's a fully integrated mobile phone, fax, and personal organiser with a back-lit LCD and touch-sensitive keypad.
www.sharp.co.uk

Nokia is fighting back with the planned launch of its 9110 Communicator. It looks a lot like the existing Communicator but weighs in at only 249 grams. New features include wireless communications and a back-lit screen.
www.nokia.com

The Kodak DC200 digital camera looks like a regular 35mm camera, supports JPEG files and uses the FlashPix format.Even better, at £449 it's nearly £300 cheaper than the DC210.
www.kodak.com

Swatch has a wristwatch that doubles as a phone. It has a built-in speaker and microphone, both allegedly powerful enough to let you talk without having to lift the watch to your mouth.

The Ericsson Concept One watch wirelessly connects to your PC and picks up your email. The watch is about the same size as the first LED watches, but sadly for us geeks, the product is still in its research phase.

Mitsubishi has the cutest Amity notebook planned, hopefully, for UK launch. It's the size of an A5 sheet of paper and weighs just 2.4lbs. We could see it here by the end of the year. Those who want to buy now should look out for a new product from Mitsubishi and Hewlett Packard. It's the thinnest, lightest and sexiest notebook we've seen in ages. Mitsubishi is naming its product the Pedion. HP has adopted the OmniBook Sojourn moniker. Prices in the US are around $5,799.
www.hp.com
www.mitsubishi-computers. com

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OVERHEARD THIS MONTH...
Derek Wyatt MP (Sittingbourne and Sheppey): "It is possible to regulate the 250 United Kingdom ISPs, but only if they are connected by a telephone line."

New look for the Virgin brandmeister

Despite a new logo, the 'revamped' Virgin service offers little of real benefit to its subscribers

While Microsoft let its channels slip away, Virgin Net has revamped its service around key channels – music, cinema and shopping. The company is also celebrating passing the 100,000 user mark.

Yet these channels won't be the IE type, they're merely content freely available, online wrapped in a Virgin Net shell. The new music channel will contain album reviews, samples and, surprise surprise, the ability to buy online. A new UK cinema guide and listings service will replace the existing Scoot option, and the new Virgin retail channel will offer, well, more chances to buy more products.

It seems Virgin is attempting to become an online mall as well as an aggregator of content and supplier of listings services. Outlets in the mall will include IMVS Music, and Waterstones bookshop alongside PC and software suppliers and banking services.

Sporting a brand new logo, Virgin Net is attempting to create a central online resource for all the Virgin products (err, sorry, brands) as well as content from existing partners. All the Virgin channels will be open to all Net users, leaving Virgin Net subscribers wondering what they get for their money, aside from access and free Web space. But as Virgin devotees should know by now, the brand really is the business.

Can a rail service be in beta?
www.virgin.net

PRIVACY

Crackdown! Germany rips up Net privacy laws

German Government starts Net privacy backlash

The German Parliament has voted to rewrite the country's constitution to make it legal for the police to read the email of private citizens, **writes Brent Gregston**.

Nick-named the Big Eavesdrop, the new bill is aimed at curbing organised crime. Although amendments exempting journalists, lawyers, MPs, physicians and accountants have been approved, the bill has outraged many interest groups. Even Deutsche Telekom has used its home page to publicize constitutional as well as practical arguments against restrictions on privacy.

After last year's failure by the German CDU party to pass laws regulating the activities of ISPs and the use of US key escrow encryption, the Net industry believed it had found a constitutional defence to oppose government interference. Not any more.

And it gets worse. The German IT Association claims its Government will impose a Siemens-made 160-bit mandatory key encryption chip in 1999, in a scheme similar to the much derided US key escrow system.

The German policy towards the Net's surveillance suggests a convergence in attitude between governments in the US and Europe.

Ironically, the change in Germany's constitution comes exactly one month after a working paper submitted to the European Parliament raised the spectre of routine, mass surveillance of online communication in Europe. The paper (*An Appraisal of Technologies of Control* by Steve Wright) warns that "a massive telecommunications interception network operates within Europe and ...targets the telephone, fax and email messages of private citizens, politicians, trade unionists and companies alike."

Beta bulletin

The Co-operative is now offering banking services on the Net. Check out **www.co-operativebank.co.uk**. No doubt it has an ethical treatment of browsers policy... Are you a **frustrated games user**? Do you really want to look like your own avatar? Then it's **www.cuckoo.org** for you... The site that everybody's been waiting for is due out any time now. **Everybody say Eh-Oh** at **www.bbc.co.uk/education**... We're not worthy. The **UK Internet Society** has a new chapter. **www.dcs.bbk.ac.uk/~mick/isoc/**...**£45 million of public money** just for grainy pictures on Crimewatch. **www.spy.org.uk**... Can Kylie pulp the Spice girls? **Kylie who? www.dotmusic.com**...

dotmusic

Soccernet reveals huge backing for **England's bid to host World Cup** from, err, England fans. **www.soccernet.com**

In association with the Daily Mail SOCCERNET

...**Lynda La Plante** plans new TV series about smack and sex on the Net. We wait in awe... Nortel will run a 2,000 home commercial trial in the North West of England of its **Net via the electricity** supply service **www.nortel.com**... **Microsoft loses Java case**, and has to remove Java compliant logos. Future bleak for J++?... **Domain name prices cut** as Network Solutions opens UK offices, NetNames claims credit, incredulously. **www.netsol.com** ... **Carol Vorderman** to publish a guide to the Net. We'll take one and any other five please Carol... MSN and Royal Mail have teamed up to form Relay One, an **email to letter conversion service** that lets you send telegrams, letters or large documents to unwired friends anywhere in the world. At £1.50 per letter, prices rise to £10 for a 50-page document. Next day delivery is guaranteed. The service is open to anybody with a credit card. **www.relayone.msn.com**

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Thanks to the latest Internet technology, the new Microsoft Network is the first online service powered by Microsoft® Internet Explorer 4.0. That means it's the best way to get yourself around the net.

MSN™ is now faster and more reliable than ever. Our new email client – Microsoft® Outlook™ Express – is based on Internet standards, using the latest POP3 technology. And that's just one of the ways in which we've improved the service.

Right now, we're also giving you 30 days unlimited access to MSN and the Internet. So call today for your free starter CD pack and guide – you'll see how we've made the web a better place.

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Lines are open 9am to 5.30pm Monday to Friday

*Local rates apply to B.T. customers only. *Some restrictions apply. Call for details. Telephone connection and call charges are not included in this offer. MSN requires Microsoft® Windows® 95 and a modem. Microsoft, Windows, Where do you want to go today? and MSN are either registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries.*

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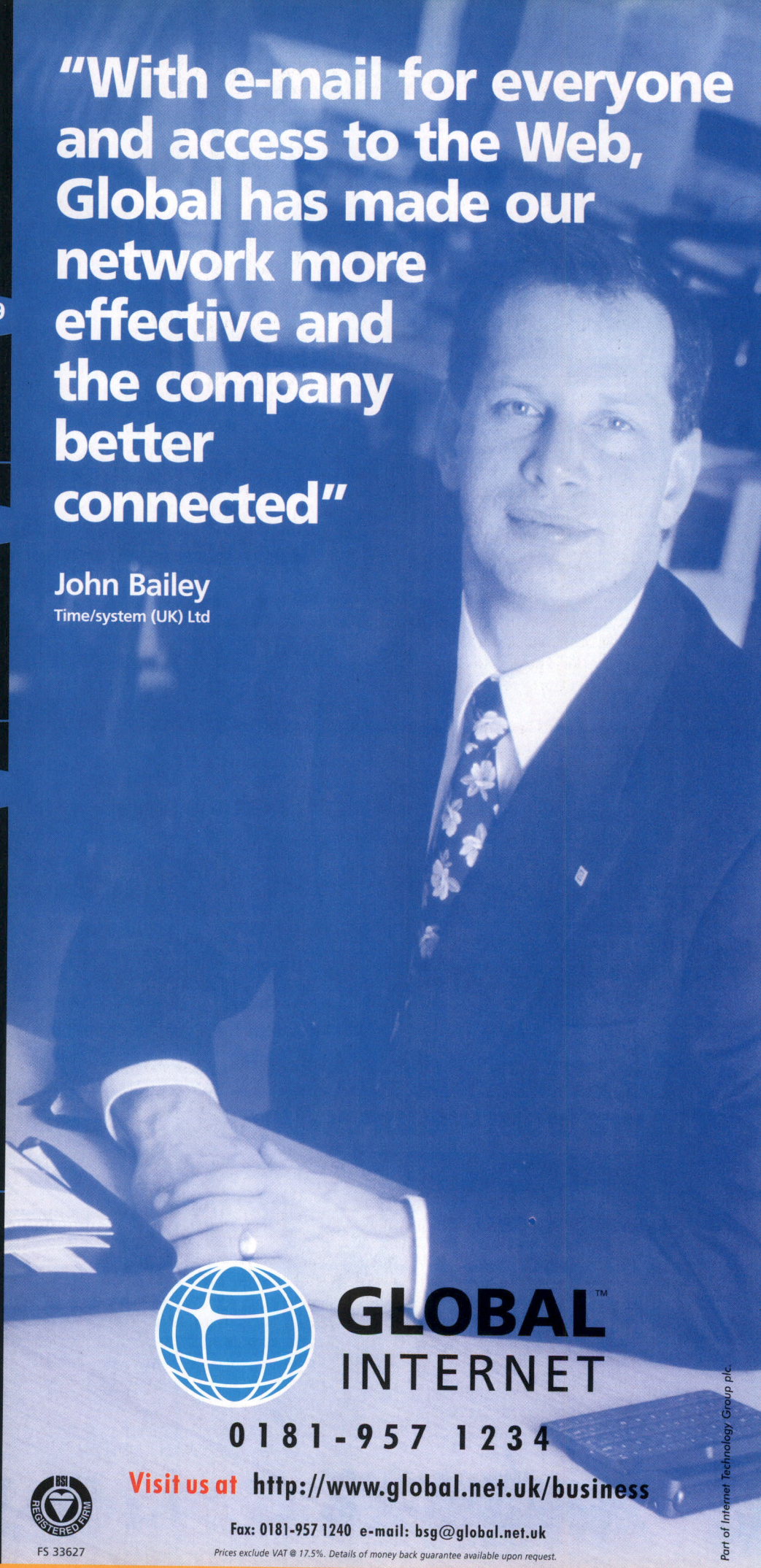
www.msn.co.uk



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Price from £89.99

A single-user account which gives you a personalised e-mail name and unlimited additional addresses delivered to your mailbox, plus web browsing facilities. Includes 3Mb of Webspace.

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Price from £299

The iLink Plus package supports one workstation with unlimited e-mail addresses at your personalised company domain. Includes commercial Webspace for your company to promote itself.

- e-mail account (unlimited addresses)
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- **ISDN Network Connections**

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Whether you are connecting a small office, a large department or an entire organisation, our Network Connections are designed to meet your needs. Choose one of our basic packages, or talk to a business specialist about your particular requirements and special performance options.

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OVERHEARD THIS MONTH...
Dr Julian Lewis MP (New Forest, East) complaining about how he was libelled on the Net. "It is filth on an international level." Now if it's filth you're looking for...

Trademark name 'not illegal' shocker

Those krrr-azy domain name registrars are at it yet again! After Netnames became the registrar for the Turkmenistan suffix .tm, nearly four thousand companies raced to register .tm names

Now we don't want you to think that this whole Turkmenistan .tm name business is a cheap scam to bolster the ever-changing market for domain names. Netnames has simply allowed companies to put two and two together by 'suggesting' the trademark link. "We think it's disengenuous, it implies the use of trademarks," stormed Ken Storey from the Institute of Trade Mark Agents. Nevertheless, he accepts that legal action is out of the question. "We don't really have any legal powers to curb this," he added and went on to concede that "it's not really illegal."

Meanwhile, others are jumping on the bandwagon. After Netnames wisely chose to dump 500 .tm names it had reserved for its own use (netscape.tm and so on) one domain buyer bought up 125 leading company names in one go, including microsoft.tm. Looks like it's back to the Old Bailey for domain name registrars.

● Our favourite domain wrangle concerns the Prema toy company, who tried to sue 12-year old Chris Van Allen, known as Pokey to friends and family, after he registered the name pokey.org. Pokey, as all you juveniles will know, is a trademark held by Prema toys. After Pokey's Dad registered the name as a birthday treat for his son, the heavy-handed toy company sent round the lawyers. Now that's what we call positive PR.

Now remember, this has nothing to do with trademarks www.nic.tm
Of course we know where Turkmenistan is! www.netnames.co.uk
Guys, guys! It's a .org name! www.pokey.org

FACTS & FIGURES

Total domains registered globally, as of 23 March 1998	3,246,527
Current weekly growth rate	49,059

The top 10 country specific domains

.de	(Germany)	125,722
.uk	(United Kingdom)	116,396
.se	(Sweden)	52,069
.dk	(Denmark)	47,610
au	(Australia)	45,372
.jp	(Japan)	33,160
.nl	(Netherlands)	32,960
.ch	(Switzerland)	29,847
.br	(Brazil)	29,111
.ar	(Argentina)	25,557

W3C

Standards Watch: May 98

One of the most important standard-setting bodies doesn't call what it produces standards at all – it prefers the term 'recommendations'. The group is the World Wide Web Consortium (W3C at http://w3c.org/), and it's just issued a revised version of its own procedures.

Tim Berners Bitmap Lee

According to its charter, the consortium "attempts to find common specifications for the Web so that through dramatic and rapid evolution, many organizations can work in their own fields to exploit and build on top of the global information space which is the Web." In reality this means that the W3C is trying to stay out of as many fights as possible while still making sure the Web doesn't fragment into a thousand incompatible segments, each owned by one vendor.

Compared to the fiasco over Java standardisation, the W3C has done a remarkable job since its formation in October 1994. The new process should make sure that the one forum where Microsoft, Netscape and Sun talk productively to each other keeps on going. The success of the W3C has a lot to do with the shining honesty and integrity of its British director, Tim Berners-Lee – a man whose total earnings from the Web he invented probably wouldn't pay Bill Gates electricity bill. So when we talk about standards, we shouldn't forget that some of the key ones that hold the Net together are personal, not technical.

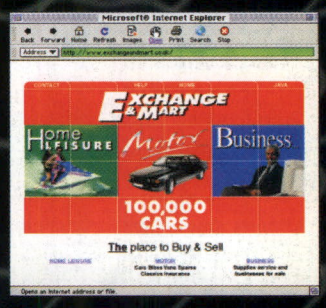
Time Line

MICROSOFT
If you're travelling to the US in May, ask your hotel if it's got IPORT, a new system from Microsoft and others that lets you plug into the hotel's Ethernet and then headout onto the Web via their NT server and a T1 line. Cool. All at www.microsoft.com/industry/hospitality

NETWORK
If you're worried about network security, then EuroCERT (www.eurocert.org) can help. Honest. They'll be providing a Europe-wide incident co-ordination service to help identify and deal with major problems.

CONVERGES
You've got until the end of April to get your comments in to Brussels on the convergence of telecommunications media and IT. Let them know just how you feel at www.ispo.cec.be/convergencegp But make sure you read it first.

SOCIETY
If anyone runs the Internet, it's got to be the Internet Society. This month they get to elect themselves some new trustees to look after things.

EXCHANGE & MART
www.exchangeandmart.co.uk
NO ONE CASTS @ WIDER NET
MOTOR
100,000 cars, bikes, vans, spares and cherished numbers.
HOME & LEISURE
Everything for your home and freetime.
BUSINESS
From computers to compressors.


The one-stop shop for buying and selling online

QUOTE OF THE MONTH...
"Few Cabinet Ministers understand it: many still have no email adresses, and they clearly do not look regularly at their own departmental Web sites, which are woefully inadequate and make us look like bumbling idiots." Wyatt again, really warming to a theme.

Time Line

www.isoc.org/members/vote/98election/

Internet Society

Our money is on Vint Cerf getting re-elected. No candidates standing from the UK though. Shame!

SPACE

May sees the launch of the last of the 66 low earth orbit satellites needed by Iridium (www.iridium.com) for its global communications network. Once testing is finished, it'll be offering phone access from September '98.

IRIDIUM

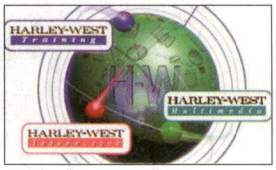
BARBARA

On 19 May the Telecommunications Council of the European Union (chaired by our very own minister responsible for telecoms, Barbara Roche) will be considering exactly how much money it should spend on setting up a ratings and regulation scheme for Internet content. This would become, in effect, a European version of the Internet Watch Foundation (www.iwf.org.uk). Do we hear 27 million ECU? You can get plenty of PICS ratings schemes for that kind of money.

All expenses paid

A variety of conferences, course and seminars to help you run up those expenses

Telecoms @ Internet IV



Spring's great. The days get lighter and warmer. And it rains. For weeks. Just the excuse you need to swan off to the South of France for three days at the Telecoms @ Internet IV conference. Speakers from Microsoft, Easynet, UUNET and Nortel have all had the same idea.
Price: £2,283
20-23 April
Noga Hilton, Cannes, France
Contact: (0171) 915 5056
www.iir.co.uk/tel-inet/

Intro to the Internet

If you're a Net newbie, Harley West's one day introduction to the Internet will set you back £295 and promises to sort out your FTP from your IRC.
Price: £295
22 April
London and Leeds
www.harleywest.co.uk

NetLaw 98

Visit the NetLaw 98 forum and then potter along to the domain names seminar at the same venue. The two-day forum focuses on the legal side of everything electronic.
28-29 April
Howard Hotel, London
Contact: (0171) 878 6888
www.euroforum.co.uk

Infosecurity 98

infosecurity 1998

According to the Association of British Insurers, computer theft is the fastest growing crime in the UK, so it's worth having a peek at Infosecurity 1998. On show will be solutions to a range of IT problems from Internet security to virus protection.
28-30 April
Grand Hall, Olympia, London
Contact: (01844) 262 728
www.infosec.co.uk

Intellectual Property on the Net

Topics range from how to protect your IP rights, to legal disputes in cyberspace. For your £1,169, you'll hear speakers from CompuServe, News International and The Body Shop.
29-30 April
Berners Hotel, London
Contact: (0171) 691 9191

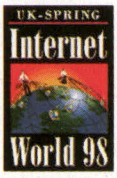
Intro to the Net

7 May
London
Contact: (0171) 452 7300
www.harleywest.co.uk

Internet for Beginners

9 May
Bristol University
Contact: (0117) 928 7126
www.bris.ac.uk

UK Spring Internet World



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Forum Hotel, London
www.iir.co.uk/banking/

Bug of the Month

It's been a busy time for bug finders. The enthusiastic hacker is always looking for new adventures. Subscribers to the BUGTRAQ mailing list (listserv@netspace.org) seem to have been spending much of their time and energy finding new and inventive ways to crash Internet Explorer 4.

Some of the best include a recursive FRAMESET that seems to consume all of your computer's memory when loaded into IE4. It leaves Navigator well alone, apparently. There's also a way to overflow a buffer and overwrite the stack with an EMBED tag.

This bug is worrying as it could give a malicious Web designer a way of getting your computer to run any program they want, by overwriting your system area with just the right pattern of ones and zeroes.

Another interesting buffer overflow problem has been reported with AOL's Instant Messenger. If you send a <TITLE> message, you crash the receiver's program. People around the Net are even now working at ways to use this 'feature' to steal your data or damage your files.

Microsoft's incessant NT-mania has made it a big

target for hackers, crackers and kids out to have a good time trashing other people's systems. Over at the NTBugtraq site (www.ntbugtraq.com) there's a pretty comprehensive list of the known problems and how to solve them. These include how to make sure you're not susceptible to the Teardrop attack, which brought down so many major sites earlier this year.

And finally, CERT, the Computer Emergency Resource Center at www.cert.org has an excellent checklist on what to do when someone breaks into your computer. Get a copy now, you probably won't have a computer that works when you really need it!

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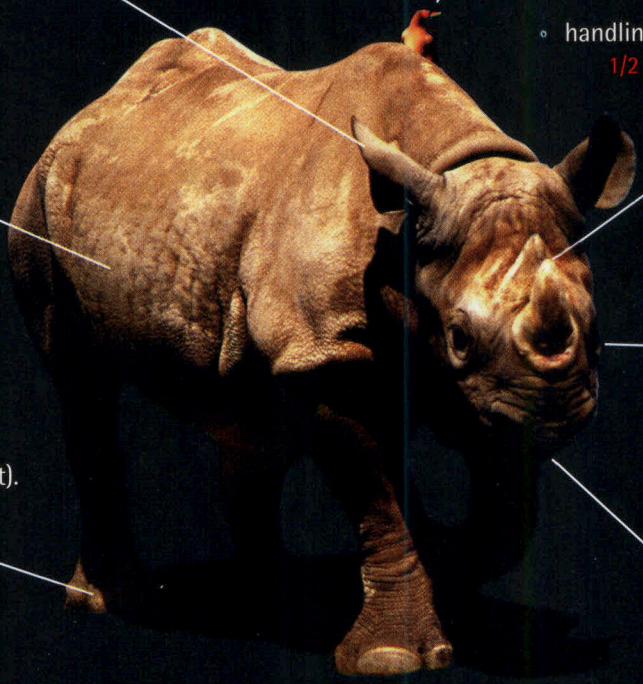

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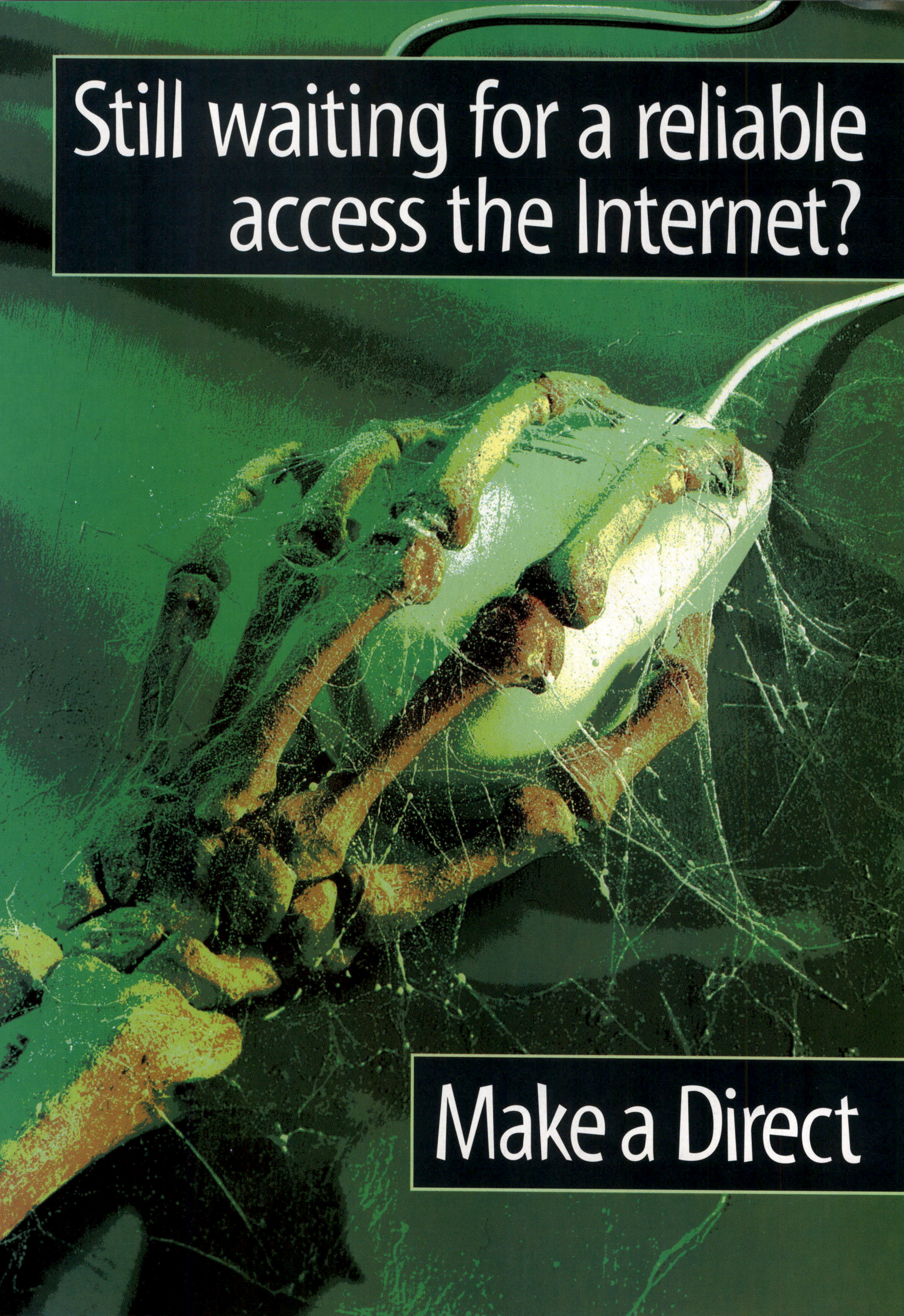
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Spider Woman

Esther Dyson, chairman, EDventure Holdings

Author, Net guru, political agitant, instigator of privatisation in Eastern Europe, advisor to the Clinton Government, and daughter of a Nobel prize-winning scientist, Esther Dyson is seemingly at the centre of the Web's development. Mike Bracken catches up with the would-be first lady of the Internet

The Internet is huge and diverse, and the routers and hubs that connect the various strands are producing an ever larger Net. But something tangible has to lie at the centre. I'm increasingly suspicious that Esther Dyson is as close to the Net's middle as it's possible to be.

Dyson is living proof of the AOL principle – that a network is only as valuable as the number of people connected to it. One of a coterie of the American information élite – others include *Wired's* Kevin Kelly, commentators Nicholas Negroponte and George Gilder, MCI's Vint Cerf, John Gilmore of the Electronic Freedom Foundation, and Mitch Kapor of Lotus – Dyson has been successful while producing very little. Unlike her many peers, she neither writes code nor sells products. Instead, her way of working is to sit on as many panels, advisory boards and online networks as possible.

An insatiable collector of contacts, Dyson has generated a small army of influential supporters. Indeed, such has been the success of this strategy that judgements of Web credentials are often based on a 'how close to Esther you are' ratio. This has led otherwise staid journalists to proclaim their relationships with Dyson in print. "Eat your heart out, lads!" was the cry from a *Guardian* writer crowing over his friendship with Dyson.

Dyson's PC Forum conference, which once a year brings together the new Net aristocracy, is a profitable outlet for her company, EDventure Holdings. Her new book, *Release 2.0*, reads like a *Who's Who* of Net players. As advisor to the White House, she's central in developing a new commercial model for the digital economy, and she holds stock in many new Eastern European Net companies.

This last fact is not surprising. She spent years in Russia after learning the language at school, then didn't graduate from Harvard where, her father told *Wired* magazine, she went to meet people. Yet it's hard to avoid the conclusion that Dyson is the ultimate insider, proving the old adage 'it's not what you know, it's who you know'. This makes for an odd conflict. For many, including Messrs Gates and Barksdale, she's a visionary, prized friend and connection. Others find her prose insipid and superficial, and see her books as mere extensions of her incessant self-marketing. Indeed, *Release 2.0* contains some interesting ideas, incuding sender-pays email and the possible size of Net communities. Yet many find her writing littered with solipsisms (on an information market for education: 'it's what made the US economy so successful. It's just what the education system needs.') and unproven aphorisms ('As long as the world contains people, it will have contents').

Dyson herself is in no doubt, confiding that she sees herself as a role model and ambassador for the Net. Maybe the real question is whether the Net's Spider Woman will continue to wield power, or if she'll get eaten by a young breed of online power players.

Your book, *Release 2.0*, covers many disparate subjects. In one sentence, what is its 'big idea'?

Decentralisation and individual choice implies individual responsibility.

Some years ago you were one of a handful of people behind the Magna Carta document, a manifesto for a digital society. (see 'Cyberspace and the American Dream: A Magna Carta for the Knowledge Age' at www.sbsc.org/pff/position.html). Do you still believe in its ideas?

Photograph in London
Guy Hills

"The essence of the
Net and of humanity
is that we don't die."

Yes, I more or less believe in the ideas they had. I don't repudiate it. The fundamental notions are there. I wasn't tricked into signing it. I have my own standards of morality.

But its fundamental point was political – redesigning society – not personal?

Designing society from the individual up, not imposing it. The whole point is to be a grown-up.

Are you happy being associated with those people, especially after they've declared radical views on many other subjects?

There are people I deal with I don't like. You have to be somewhat impure to make things happen. I'm rigid, but not a fanatic. A lot of people think I'm unreliable or unpredictable because I don't always represent the US.

"Our Government is mistaken in its belief that anyone outside the US wants a system based on US law."

Your *modus operandi* is to work within a network of powerful political and technical players. Surely what you're all doing is redesigning society from within an information élite...

It's our job to keep bringing in new people. What I want is a system so fluid that we can't hold onto it.

As a major player in the US political Net scene, why do you think so many European countries are sceptical about the US Government's transition to a privately run Internet infrastructure?

Most Americans are just totally ignorant of things outside the US. It's the same with the Brits and the Germans. Because they're so big they think they're the centre of the world. Having said that, the US Government is doing a lot better with privatisation than Eastern Europe. You're giving control to something that's decentralised. The US Government really does want to hand the Net over to something less centralised. We [the US] do have control now. You have to incorporate a non-profit element somewhere. And this is being done under the US non-profit law.

But why should the US Government be able to judge European-led projects, such as CORE (the European Council of Registrars, which wants to introduce seven new domain names)?

If you displease a bunch of people that's better than displeasing a single group. I don't want to get into a fight [about CORE]. Domain names should be controlled and limited. You need a unique and usable system. I don't think intellectual property is a bad thing. Too many top-level domains will confuse consumers.

What's your take on the encryption debate in the States?

Government-sponsored trusted third parties – that doesn't thrill me. I think the US Government policy is much like yours: a conflict between commerce and law enforcement. The freedom of encryption forces will win. Key escrow is scary. It's going to be a huge inconvenience for people who keep the law. Encryption export is clearly going to happen. The key thing will be much tougher. Our Government is mistaken in its belief that anyone outside the US wants a system based on US law. The commercial guys get it but the conspiracy theorists think these guys are all-powerful. There really is no single centre of power.

So how do you try to persuade the politicians not to mandate the proposed encryption policy?

Like it or not, our Government is subject to voters. Right now the voters are being educated by the FBI. Microsoft and Intel can educate consumers. Crypto is not just about commerce, it's about personal freedom. Lobbying in Congress doesn't work.

Why do you think the EU countries, the UK apart, are far less keen on the trusted third-party model?

In the European Union, governments are descended from people who had the divine rights of kings. In the US we're much more honorary. At least there's some concept that government should act in our interests. Just because something is authorised by a government it doesn't mean it's right.

The EU seems to be buying time on this issue, prolonging its consultation period...

Buying time is not a bad idea, but it makes people nervous. Life is not perfect. You have to live with some uncertainty. The essence of the Net and of humanity is that we don't die – new people keep being born: it's arbitrary.

I last interviewed you by phone at 5am New York time on a Sunday. How can you be so motivated?

I don't hang around. I don't get drunk. im

CV

(aka : How to get a seat on the board!)

1952	Born to physicist Freeman Dyson and mathematician Verena Huber-Dyson
1972	Leaves Harvard with a BA in economics
1974	Spends three years as a reporter for *Forbes* magazine
1977	Securities analyst, New Court Securities
1980	Securities analyst, Oppenheimer & Co
1982	Joins Ben Rosen as editor of his high-tech newsletter
1983	Starts her own company, EDventure Holdings, which spins off venture capital company EDventure Ventures. Starts running PC Forum conference and renames newsletter *Release 1.0*. Both are run under the aegis of EDVenture Holdings

Commercially

Sits on the board, or has investment in, private start-ups including:

Cygnus Support, Medscape, Thinking Tools, iCAT, Accent Software, Perot Systems, Global Business Networks, Internet Capital Group, E-Pub. PocketScience, Cambridge Display Technology, Firefly Network, DPI and TerraLink, Softsteppe, Orchestream, Prediction Company, Internet Securities, 21st Century Travel, Stagecast, FEED, Nyssa, GiGA Information

Is a limited partner of Mayfield Software Partners

Non-commercially

Sits on the board or executive committee of:

US National Information Infrastructure Advisory Council (1994-1995)
Eurasia Foundation
The Santa Fe Institute
The Institute for EastWest Studies
Chairman of the Electronic Frontier Foundation

Serves on the advisory board of:

Software Forum (Silicon Valley)
Poynter Institute for Media Studies
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Calling BT to task

In your April issue, BT's David Hughes commented that free local calls in the US have caused phone switches to go down and it's meant that people have been unable to reach 911 services.

If free local calls were such a problem, why would Pacific Bell – California's main phone provider – continually encourage its customers to get second lines for Internet use? How could they be so irresponsible as to offer price breaks on installation when it makes 911 inaccessible?

The answer, of course, is that Pacific Bell is making plenty of money, and that the scare stories about local calls are just that, and are put out as an excuse for BT to go on collecting unexpected revenue from the growth of the Web in the UK. Think about it. BT is taking money hand over fist that they didn't expect. They couldn't have anticipated the Web's take-off, and now they collect hundreds of pounds or more per year from active Internet users.

BT has no problem being creative in areas where it faces competition. Long distance prices continue to drop, and they certainly tell us it's 'good to talk' in these cases. But BT has failed to make any effort to help cut costs on local calls. The Friends & Family numbers are meant to be for long distance users. How about a decent discount plan for Net users?

Danny Sullivan

danny@calafia.com

Call price comparisons

The UK Net phone charge situation is ridiculous. Off-peak calls to the Net fall into three categories:

1. Free, such as Telewest and Videotron customers (dialling a Videotron ISP number)
2. Cheap, such as Diamond Cable
3. Unfair, including BT and Cable & Wireless

You have a regular monthly table of best performing ISPs. Why don't you include a table showing the per minute charges of the various phone companies in the UK at various times of the day. That way you might stand a chance of shaming certain companies into dropping their prices. This seemed to work when it was pointed out that a BT customer (using the Friends & Family discount scheme) could dial into Cable & Wireless Internet at a cheaper rate than C&W phone customers could. This led to C&W dropping their prices by 25 per cent.

I suggest a reasonable cost during the days for businesses and a free service at off peak times for home users. In the end everyone will benefit.

Mr D Braganza

diamond@pemail.net

Gail Robinson, editor, replies:
That's a good point, Mr Braganza, and in the next stage of our campaign for Free Local Calls – in the June issue – as well as questioning some of BT's claims, we'll be carrying out a comparison of the various pricing options.

IWF in ISPs' pocket?

I can't be the only reader of *Internet Magazine* who is puzzled by its recent uncritical reporting of the Internet Watch Foundation's activities. This self-appointed watchdog has assumed the role of a private censor, with those muzzled having no opportunity to hold it to account.

Mailbox continues over the page

Star Letter

Winner gets £75 worth of books from Bookpages

I've only bought a couple of issues of *Internet Magazine*. However, I shan't be buying it again and I'll tell you why. I quote from page 88 of the March issue, "*Internet Magazine* doesn't usually cover home pages. Too many pictures of cats and dogs and snapshots from that holiday in Skegness". I don't think I've ever read anything so arrogant, smug and self-satisfied! Who the hell do you think the Net is for?

You expect ordinary surfers to wade through page after page of corporate arse-licking and then be told that their home pages are not worth looking at!

I also have to strongly agree with Alec Hamilton's letter in the same issue that you are far too cosy with your advertisers. Their influence is obvious throughout the magazine. If BT decided to pull their ad tomorrow, you'd quietly drop your campaign for free calls to the Internet in a shot!

The Net is a diverse collection of mainly ordinary people like myself. Please don't patronise us by labelling practically all home pages as boring and not worth mentioning.

Nick Dakin

danny@calafia.com

Paul Bennett, editor of Site Surveyor replies:
Internet Magazine isn't averse to covering home pages. In the April issue, there's a whole page dedicated to the best personal sites on the Web. As a monthly magazine, we can only cover a selection of sites which exploit the technology available or are possibly of benefit to our readers.

But you are quite wrong in your suggestion that we are "far too cosy with our advertisers". I cannot stress strongly enough that the companies advertising in no way effect editorial. If we were concerned about upsetting BT, we would never have started the campaign. If you were watching *Watchdog* on 12 March you will also have noticed that *Internet Magazine* figures, along with words from our technical editor, were used in a critical piece on BT Internet.

● Nick is this month's lucky winner of £75 of Bookpages vouchers. The Bookpages online store sells every UK book in print – more than 1.2 million titles. Every month Bookpages offers features, book reviews, author exclusives, competitions and discounts based around one topic. This month's special subject is comedy.

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By what power can the IWF decide that certain Web material contravenes the obscenity laws without proving it in a court of law? No public record has ever been issued by the IWF outlining how its 'judgements' are reached, and, unlike a court of law, there's no possibility of appeal. The IWF works entirely on the basis of backroom deals with ISPs unwilling to face the travails of court, cutting out both Web content providers and ordinary Web users. Without public accountability, the IWF's decisions seem to based on little more than the personal prejudices of the people who run it.

Julian McClements
JulianMcClements
@Resolutiongroup.com

David Kerr, chief executive of the IWF replies: Mr McClements' worries about the perceived powers of the IWF have been expressed on a number of occasions.

I presume these comments were prompted by the media coverage of the DTI/Home Office press conference on 3 March. Although the Ministers present were supportive of the self-regulation efforts of UK ISPs and were complimentary about IWF's activities, the basic purpose of the conference was to announce a Government review of the IWF's performance. I could rest my case there, but I'd like to reassure readers about the checks and balances on any apparent power wielded by the IWF.

Over 50 per cent of what's reported to us is actionable, in our view. What we ask ISPs to remove from their servers is almost exclusively pictures of sexual activity involving children. Our procedures are in accordance with agreements between the industry and the police and ratified by the Home Office and DTI.

We don't apply our own opinions or standards. Our assessments, based on advice from police and prosecutors, are about whether the material in question is likely to be found to be illegal in a UK court. Yes, we do have to anticipate court decisions – otherwise material which is almost certainly illegal would remain available for a long time – but this is no more threatening than a newspaper not accepting an ad because they believe it might be actionable. ISPs cannot blindly accept liability for other people's offences.

There I do rest my case, but anyone is welcome to look at the full record of our activities on our Web site and ask us any questions that are not answered there. Email your questions to me at chief@iwf.org.uk

In defence of Spam

I'd like to take issue with your Spam article (March issue) and the sloppy discussion about abuse of Usenet and abuse of email. What's more, some dubious, and in some cases counterproductive, advice is being given.

Very few newsgroups are 'becoming unusable' due to Spam. It is misleading to say that two thirds of the daily news feed of 5Gb is Spam or cancellation messages. Up to two thirds of the number of messages perhaps, but not two thirds of the volume.

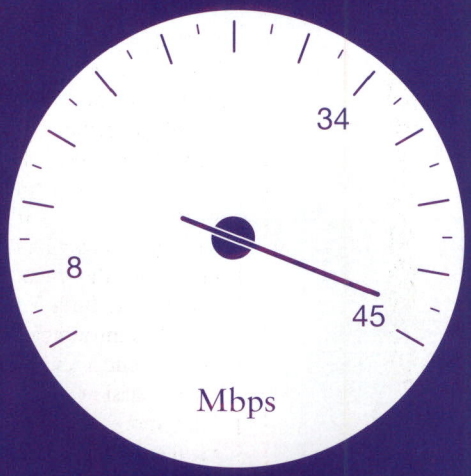
As to advice, I'm amazed that anyone should suggest that a user should complain to the miscreant! Telling them to delete your name from their database is also a joke. The idea that you might try complaining to the Office of Fair Trading is also amusing when you consider where the majority of junk mail and Spam comes from.

If an amateur can see so many potential flaws, it's a pity that the author and the magazine did not listen more carefully to the experts at Demon Internet.

David CL Francis
david@dclf.demon.co.uk

Richard Baguley, technical editor, replies: The problem with spam and Usenet is not one of quantity – it's a problem of resources. Whichever way you measure it, a large percentage of the messages on Usenet are messages cancelling other messages. Many ISPs are becoming increasingly frustrated at how much bandwidth and computing power Usenet news takes.

I believe contacting the person who sent the mail is the right thing to do. If they then refuse to remove you from their mailing list, you have a clear angle of attack – they are then in breach of numerous laws governing direct marketing, whichever country they're from. If you simply do nothing, you're playing into the hands of the spammer.



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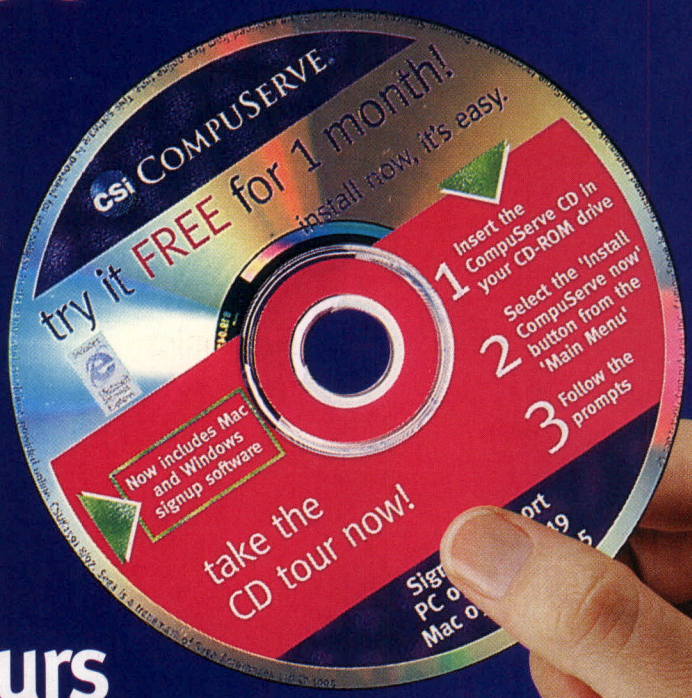

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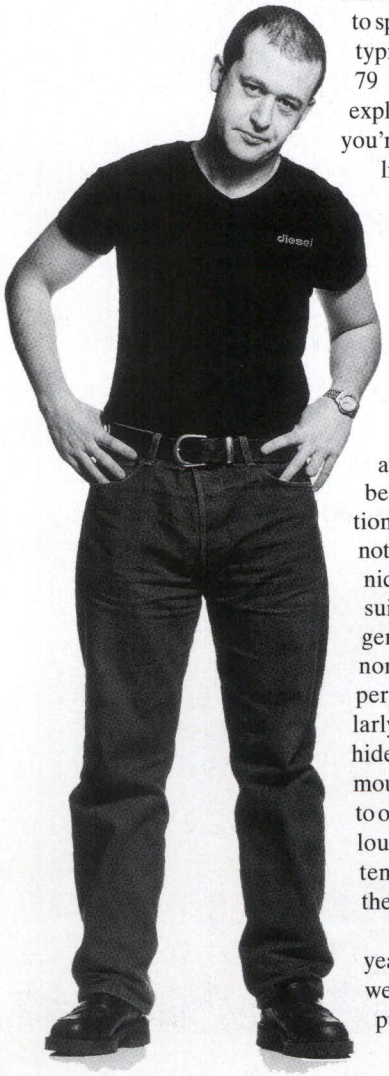
Talking Webonomics

If at first you don't succeed, synergistically refocus your business on core-competency technologies. It's not the acronyms, it's the asinine marketing speak that's damaging the Web. Mike Bracken leverages the new language of Webonomics

TYTT, TPTB are getting away with daylight robbery. TMOT, in RL they'd make punters ROFL. Are you with me? Well, probably yes, since you're likely to be *au fait* with usenet acronyms if you're reading this column. Just to recap, it translates as: 'Tell you the truth, the powers that be are getting away with daylight robbery. Trust me on this, in real life they'd make punters roll on the floor laughing.'

Every community adapts language to suit its needs. Web users are no different. You'll regularly read about the stupidity of netiquette in the more conservative broadsheets, but the main reason we use abbreviations is to spare us the boredom of typing. The message took 79 keystrokes, the full explanation took 130. If you're posting messages to like-minded communities who understand these shortcuts, there's no problem.



There will always be critics of the way the Web treats our language. But then who, apart from the *Daily Telegraph*, actually says 'it beggars belief' in daily conversation? The real problem is not techno-freaks communicating in a style that suits them, but the new generation of marketing nonentities. This self-perpetuating clique regularly invents new words, hides behind mealy-mouthed excuses and tries to obscure companies' parlous plight by spinning tenuous lines absolving them of all responsibility.

Cast your mind back a year. Last summer, we were busy welcoming push channels. 'The Web the way you want it,' proclaimed Microsoft. And now? Channels are dead and the prized content partners know it. In the UK, even Virgin and the *Telegraph* accept that channels haven't worked out for them. But do we hear acceptance, or even humility, from the Seattle soundbite factory? Not likely. This blame-avoidance strategy has been used before. Remember early versions of MSN, the Blackbird authoring tool, J++, ActiveX tools... see a pattern emerging?

"The entire Web software industry is talking in riddles."

But let's not single out Microsoft. The entire Web software industry is talking in riddles. Netscape claims it gave away its browser for free not because Microsoft was giving away IE free, but because it had just learned 'the value and impact of open source development'. Yeah, right. Over here, we witness the unedifying sight of BT and News International flogging a third of LineOne to United News and Media in order to 'develop new products and services which utilise the enhanced functionality new media presents'. Surely nothing to do with the limited appeal of all your content coming from the Murdoch stable?

Now I'm not naïve enough to expect companies to put themselves in a negative light, but the false claims and assumptions made by Web companies are becoming so ridiculous that they're creating a new language – Webonomics. Infostructure, co-opetition, defocus, disintermediation and disinter-remediation, re-engineering, paradigm shift, leveraged advantage, the extended enterprise, cutting-edge data provision, principle-centred, empowerment methodology... the phrases of Webonomics. And they exist for just two reasons: to get companies out of answering difficult questions (such as 'How much money did you make last quarter?' or 'Why do I have to wait four hours to get through to your telephone support line?') and to confuse the uninitiated.

They're allowed to do this thanks to the founding principle of the Net's development: amnesia. In the US, and in California in particular, there's a well-entrenched culture of political correctness that mitigates against use of the F word. Failure, that is. US children are graded by doing 'less well' than others. Success is endemic and failure is forgotten. This culture has defined Webonomics, and we're dealing with the consequences. Bankrupts and business failures re-invent themselves quicker than Madonna. A small army of Net gurus (Negroponte, Kelly, Tapscott et al) charge small fortunes to entertain conferences with nebulous truisms. Service level guarantees are unheard of. Companies float on the stock market with barely a working product to mention. Venture capital houses throw good money after bad; and consultants reap the benefits of the understandable confusion that results.

And it's all under the mantle of Webonomics. Defined by *Wired* magazine (and they should know, after all, with two failed IPOs, a defunct UK magazine, and a profit-free Web site) as 'the new laws of commerce and economics heralded by the Web', Webonomics is just another meaning-free phrase designed to create FUD (fear, uncertainty and doubt). So the next time you're faced with this rhetoric from a Web consultant, salesman, or software house, just try asking a few simple questions: How many staff do you have? How long have you been in business? What service guarantees can you give me? Who are your other clients? If any of the responses contain the tell-tale language of Webonomics, dig a bit deeper.

And if the incessant marketing nonsense starts to grate and you don't fancy typing too many questions, you could always try asking the old favourite: WTFIGO?

Mike Bracken (mikebr@internet.emap.com) is deputy editor of *Internet Magazine*

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GENIUS!
THE EXPERT GUIDE TO WEB DESIGN

Internet Magazine has consulted the great and the good of the Web design industry to bring you top tips from the HTML experts. Find out the software you need to create killer Web sites and then test the packages out by loading up our exclusive Experts' Guide cover CD. Get the edge on your competitors by swotting up on the key Web technologies for the next year. And, above all, learn from the mistakes made by many Web designers before you...

It's not enough just to keep up with Web technology, you've got to predict where it's going. This is tricky with the Net. It's a world where Bill Gates does dramatic U-turns, changing from a Net doubting Thomas into an Internet evangalist overnight. It's a world where Rupert Murdoch buys Delphi, it all goes pear-shaped and then has to rebuild a Net strategy around LineOne.

With the knowledge that any predictions we make will almost certainly come back to haunt us later, *Internet Magazine*, with the help of experts in the Web design industry, predicts the key Web technologies of the next year.

Web TV, it could finally happen

The industry has been promoting Internet through your TV set as the next big thing for a couple of years now. There are still some great unknowns, but it could just happen. British Interactive Broadcasting (BIB) launched with a flurry of activity back in May last year. The project is backed by BSkyB, BT, Midland Bank and Matsushita. The theory is Matsushita makes the hardware, BT provides the backbone, Midland Bank handles the financial transactions and BSkyB does the content. However, since then the project has moved on with all the speed of a reluctant tortoise. Check out the BIB Web site (**www.bib.co.uk**), and you'll see the message 'This site is currently under construction. 20th May 1997'.

Thankfully, there's been progress elsewhere. The standard has been set for a version of HTML that will work on TV sets – TVHTML. Check out the W3C site (**www.w3c.org**) for more details. Digital TVs are being built and, with the big boys like Matsushita getting behind the technology, you can guarantee there'll be a big marketing spend coming through to promote the wonders of digital TV to consumers.

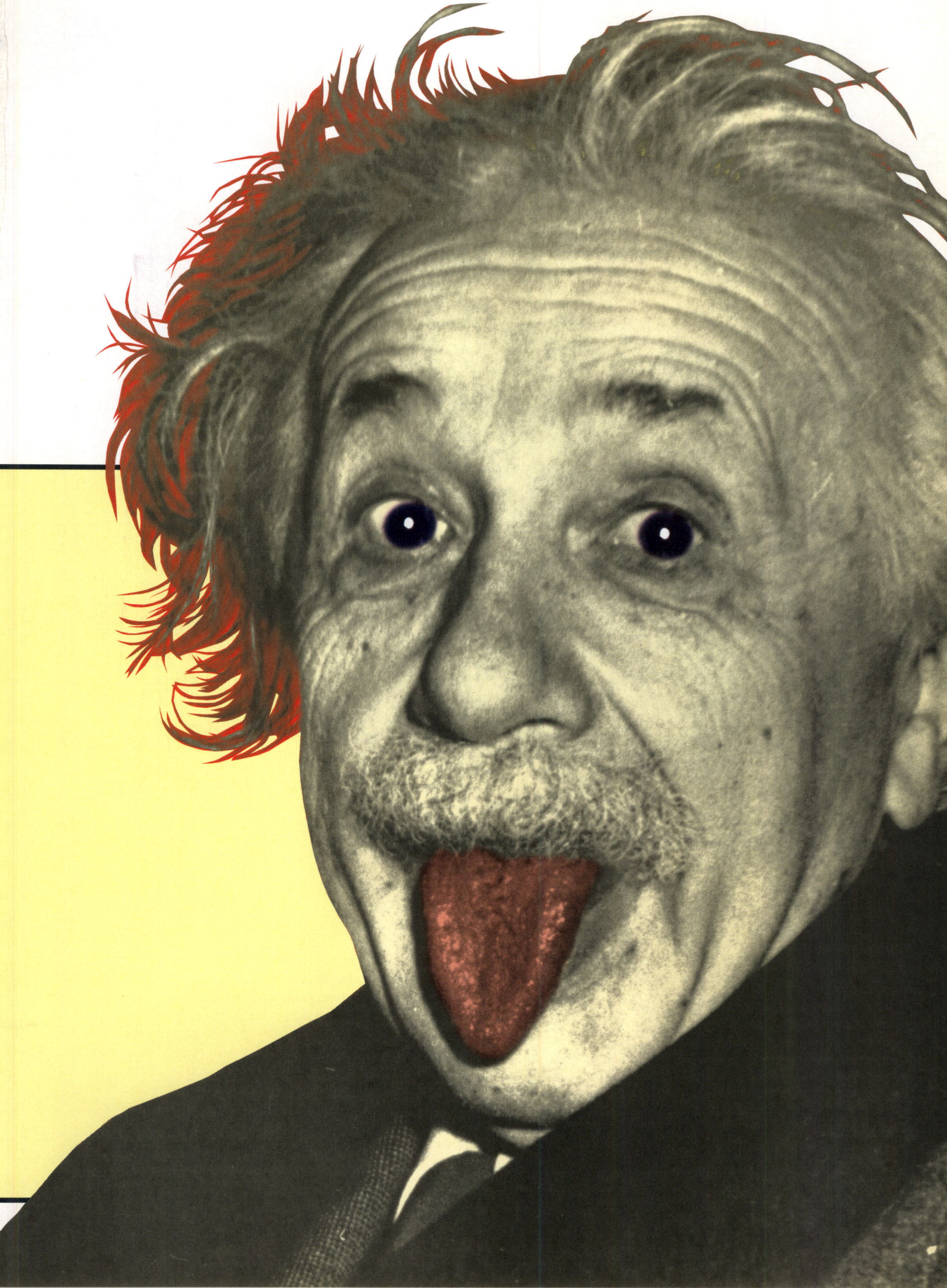
The impact of Web TV on how sites are developed will be huge. Our advice is to keep an eye on the W3C site to check on developments to the TVHTML standard. Make sure you keep your finger on the pulse of the multimedia aspects of Web design – these techniques will help you later. The most important thing to do is to stay flexible – the HTML standards might be there, but the way this information will be delivered has yet to be finalised.

Real e-commerce applications

As the general public loses its fear of buying over the Web, we'll see a huge influx of e-commerce enabled sites hitting the Net, and the Web will inevitably destroy Western capitalism as we know it. The time has come to get to grips with the intricacies of setting up a commerce-enabled site. Which means that both as a Web designer and as a potential client you need to think about how the site links into your existing business systems.

We also expect to see much better targetted sites, sites which really manage to create a dialogue with the customer. There'll be more profiling of customers, demographics will be collected systematically and consumers will be subjected to well-targetted sales messages.

Photo: Corbis



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More multimedia

The mass of technologies designed to speed up access to the Web should also mature over the next year. Net access will come through our TVs, cable connections and even our electricity lines. Once the speed problems have been resolved, site designers are free to add as much multimedia content to their sites as they can squash onto the screen.

Dynamic HTML will play a big part here. The theory is that it will add a raft of features to your site and make the Internet a more interactive, multimedia experience. As fourth generation browsers become more common, it'll be worth building DHTML features to your site. As DHTML develops, the lines between programming and design will become increasingly blurred. To get a professional-looking site, pages will have to be developed by designers and programmers working together closely. What's more, some design-only Web shops will find it hard to compete in a more technologically savvy market. The future is clear, however. If you make money designing Web pages, you either need to become a programmer or work in close partnership with one.

We can also expect the increased use of technologies such as Flash, Macromedia's influential multimedia development tool. When asked which technology was going to be key over the next year, nearly every one of our experts mentioned Flash. Expect the use of vector graphics as standard – they're quick and efficient and give the Web the dynanism it needs witout slowing it to the speed of treacle. Also worth investigating is Macromedia's new product, Fireworks. It's currently in beta, at **www.macromedia.com**. Unlike Flash, which just works with vector graphics, Fireworks can handle both bitmap and vector images and even throws in a dash of JavaScript.

● Read on and find out about which tools the design experts will be using to create these new multimedia, interactive, e-commerced up sites.

THE TOOLS THE EXPERTS USE

The toughest of the Web designers would have us believe they never use any software to create their sites. They do it by hand, the hard way... in a text editor. And for graphics they use some bit of freeware they discovered in an obscure online library, called Degifweaverirser Lite, or some such. But that's not entirely true. Even the experts need help to build sites. We asked the top designers to name their design tools of choice

HTML editors are not for wimps

Top of many lists for building pages was Macromedia's Dreamweaver. Dreamweaver is one of the first visual site creation tools that's managed to woo designers away from their text editors. The program can create Dynamic HTML (DHTML) for both Navigator and Internet Explorer, it supports whizzy stuff like cascading style sheets, has site-wide management tools and gives you pixel-perfect placement of elements on your page. For the old-school designers, Dreamweaver has a text editor built in. Mac users get BBEdit, while Windows users get Homesite.

Many of our experts complimented Dreamweaver's Dynamic HTML capabilities. Beverly Nolan from the ➢

Sites we love

NewsNow

www.newsnow.co.uk

Designed by NewsNow publishing

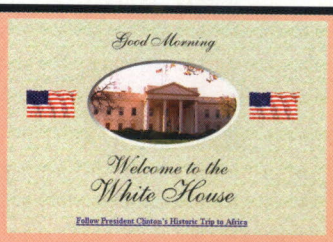
"Being a bit of a news and sport junkie I like the NewsNow site. It uses clever scripting and simple layout to pull the most recent stories from UK news sources. There are no gimmicks, the site is focused on what the user needs, and it's easily maintained."

Steve Roy, Production Manager, Redwood New Media

(Turn to page 80 for a full review of the NewsNow site.)

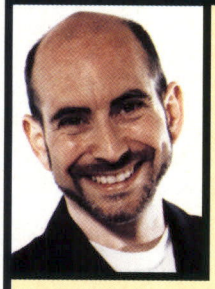
Sites we hate

The Whitehouse



"I have a small collection of the worst sites I've ever seen and I don't let it out because it just draws attention to them and I don't think these people should get attention. The worst sites are those where people have just overdone it by adding everything. The kitchen sink, the wild and crazy background... I reckon **www.whitehouse.gov** would be a good example of one of the worst sites in the US."

David Siegel



THE US PERSPECTIVE FROM LEADING DESIGNER, DAVID SIEGEL

One of the most influential Web designers in the world. He's the author of *Creating Killer Web Sites: The Art of Third-Generation Site Design*, a founding member of a Californian site design consultancy, Studio Verso, a font designer and is involved in High Five, the site which promotes fine design on the Web.

Back in March 97 we asked David what makes a Killer Web site. One year on we find out how his opinions have changed and ask him to explain exactly what a fourth generation Web site is...

Q *What have you been up to all this year? I've spoken to a few people who think your sites haven't been updated regularly.*

A Oh, my sites are hardly ever updated. I've been doing business consultancy and helping companies with strategies. I've also been getting ready for my books on fourth generation Web site design. I've been working hard on defining the fourth generation. I also tried to launch two start-ups last year. Neither took off. That took a lot of time.

Q *Why didn't the start-ups work out?*

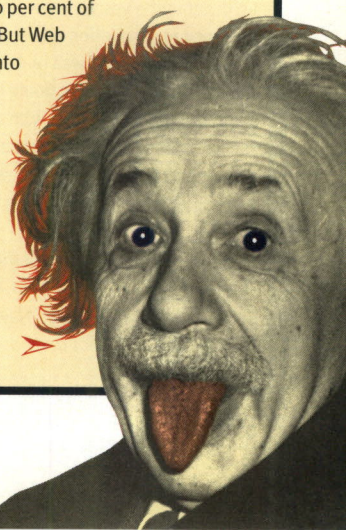
A One was started with two partners, one of whom was great, and the other turned out to be insane. I have just one piece of business advice. Never start businesses with people who are insane, it doesn't work. The other project we weren't able to find the funding for.

Q *What were the ideas behind those companies?*

A One was a systems integration service firm, databases for Web sites. The other was developing project management software. I still really believe in that, we just couldn't raise the cash.

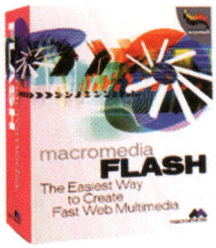
Q *There's been a lot of debate in the UK about the demise of Webmedia. They were a pioneering Web design company, and a month ago they let their designers go and became a strategic consultancy. They argued that Web clients want more and more for less and that the economics of Web design agencies are unsound.*

A I disagree with that. I'd say that holds true for maybe 80 or 90 per cent of Web development. But Web developers divide into two camps. The people who basically just have what I would call capabilities, lying around that you pay for by the hour. The others are really ➢



THE TOOLS THE EXPERTS USE

New Media Factory raved, "for WYSIWYG HTML Dreamweaver is a joy to use. It's non-platform specific and integrates HTML and Dynamic HTML. It's excellent for handling time-based interactivity and doesn't butcher your code." Daniel Hart was less complimentary about what Dreamweaver does to your code: "It's brilliant for proportioning tables and putting a page together quickly. But it always needs work afterwards. My perfect design tool would be a copy of Dreamweaver that didn't put gratuitous bits of HTML all over the place."



There were other dissenting voices, too. When we looked at the product (p86, January 98) we were less than impressed with the amount of memory required – 24Mb as an absolute minimum. Site and content management also need work, Sean Clark at Headland reckons, "I've yet to find a Web design tool that's really good at site and content management. FrontPage, Fusion, SiteMill and Dreamweaver all offer some site management features, but the killer app that takes the strain out of site maintenance is not here yet." Paul Mallett, studio manager at Brand New Media, has a more general reservation. "We're looking at Dreamweaver, but there aren't enough people with fourth generation browsers visiting our sites yet to warrant significant development."

Other HTML editors also got honourable mentions. Allaire's HomeSite is the product of choice for Urban 75's Mike Slocombe. "It keeps you in full control of the code, and the ability to jump between browsers for previews is invaluable". His enthusiasm is marred only by "HomeSite's splash screen, which looks like the back of Bill Gates' head."

Perfect Web graphics

Predictably, Adobe Photoshop came top of nearly everyone's list of essential graphics tools. Its support for Web graphics file formats is second to none – PNG, Progressive JPEG and PDF formats were all added in version 4.0.

The real pros add a mass of filters to Photoshop to extend its capabilities. "Photoshop is better for Web stuff now I've got the HVSgif/jpg expert filter which makes life a lot easier and the graphics a lot smaller," explains Annie Millar of Millaer Seale. Meanwhile, Tim Ashley at Wicked Web reckons, "Photoshop is the closest to an ideal tool, but it has a serious flaw when it comes to palette handling and GIF-ization. True pros use a combo, such as Photoshop and DeBabelizer, to get their graphics just right."

Equilibrium's DeBabelizer is a turbo-charged image editor which lets you open as many images, animation and video files as your system will allow, and cut and paste stuff from one screen to another.

If your graphics needs are less elaborate, we recommend you try out Paintshop Pro. It's shareware, it doesn't take up much memory and is great for simple graphics conversion tasks.

When it comes to creating multimedia files, Macromedia's Flash was bound to get a mention, although attitudes among our designers were mixed. "Flash 2 is great for creating our own GIFs, it's so easy to use and the file sizes are minute." Beverley Nolan at the New Media Factory was

Sites we love

Zap Pager

www.zapit.co.uk

Designed by NetSite

"I like the Zap pager site. It's interactive, it moves and the colours are great."

Sarah Morisset, senior designer, Hyperlink

Sites we hate

Radio One

www.bbc.co.uk/radio1

"The Radio One site is heavy on download times and not that exciting anway. It annoys me to have to wait for something that isn't very inspiring."

Annie Miller, Millaer Seale

DAVID SIEGEL INTERVIEW

the information architects – people who can help with strategy, who can make the site right for not just the client but for the client's customers. The latter implements what almost every single time is a database-driven site that adapts itself to customer needs. And those people will do very well, providing end-to-end work for clients.

Q *Can you define a fourth generation Web site?*

A Fourth generation sites are customer-centred sites. The first generation was about technical achievement – yes we have a Web site isn't it cool. The second generation was engineering driven. The third generation was really about marketing. The fourth generation is going to give the power to the customer. We're done with all the flash in the pan companies that have made zillions of dollars going public. Now we have to start providing real value and that means listening to customers.

Q *Back in 97 you thought there would be a few technologies that would make it big. You said you were more interested in Java than Active X. How do you feel about that now?*

A I'm still interested in things that work under all browsers. JavaScript really has come a long way in the last year. IE is one JavaScript version behind but I expect that both version 5.0 browsers will have the same JavaScript capabilities.

Q *We talked a bit about push and channels last year and it seems that Microsoft is revoking its channel policy (see news on page xx). What's your take on that?*

A I've always said channels and push were technologies looking for a solution. However, I do think mass media push is going to happen and I think it's going to happen at the level of the cable TV providers and the TV networks. There's also a tremendous capability for push that we haven't really seen yet, and that's in the enterprise for things like intra-company newsletters or within a project group.

Q *What about Web TV, it hasn't really fulfilled its potential has it?*

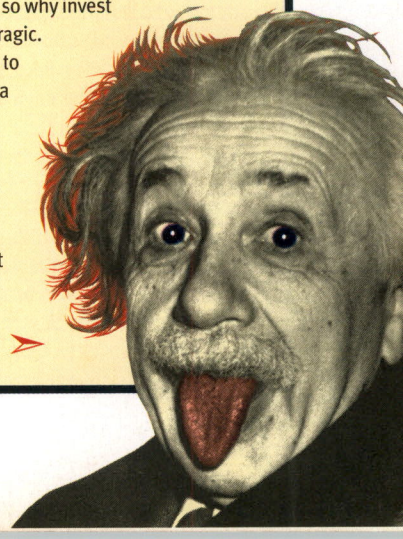
A I still think it's going to be huge, whether it's the Web TV brand or not. I think we'll just surf the Net on our TVs.

Q *Do you see a new set of skills emerging for people to develop Web TV applications?*

A I think it'll be a refinement of the skill set we already have. It's just something you have to take into consideration when your audience comes from that space. Same as you have to know if certain people are going to view your site through Web phones or cellular or a Communicator thing.

Q *One of the other issues we talked about last year were problem clients. Do you think clients are getting more educated?*

A I think we still have two kind of clients. I think the proportions are changing a little, but still the general client doesn't take the medium seriously enough. In fact, I was talking to a client this morning who said he thinks this whole thing might just be a fad so why invest in it? To me that's tragic. People really need to understand this is a communications medium that's every bit as important as telephone or broadcast and that it's got to figure in their communication



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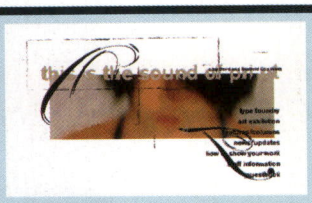
Sites we love

The sound of print

www.swankarmy.net/sound



Designed by a 16-year old student from Georgia and a 22-year old student from St Louis. "The sound of print is a bit rough and ready in places, but the obvious enthusiasm and love of graphics and the Web shines through. It's a great collection of exciting work by new artists, typographers and designers. And the bastards are incredibly young too!"
Mike Slocombe, Urban75

Sites we hate

Nintendo

www.nintendo.com

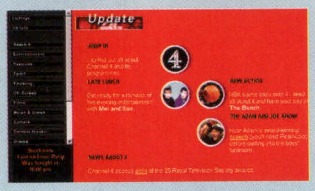
"An entertainment site should be graphics rich and, well, entertaining, but this is unforgivable. For a start there's a different background image on each page and each one is 48K in size"
Daniel Hart, Community

Sites we love

Channel 4

www.channel4.com

Designed by Online Magic and Channel 4



"It gives so much added value to each of the brands/shows that appear. And they value the Web as a primary delivery medium to stand alongside the TV programmes. It's easy to navigate and is built around simple templates."
Jason Holland, Head New Media

If I had my way...

We asked the designers what features we'd find in their perfect Web design tool and what they'd call it. Any enterprising software development company that takes up these ideas, please remember you owe *Internet Magazine* a few drinks for the idea...

"It would adapt perfectly to any browser. It would provide nice fonts (anti-aliased) on screen. It's name? Chameleon or Cyber slave."
Sarah Morisset, Hyperlink

"A WYSIWYG editor that produces perfect code and optimises graphics on the fly. Leaving me time to go down the pub."
Mike Slocombe, Urban 75

"My utopian tool would register sites with search engines at the touch of a button and then re-register them automatically every month."
Graham Miller, New Media Partner

"Customisable colour script coding, unobtrusive wizards, complete ASP syntax support, preview/develop in graphical or code, Vbscript and JavaScript support, browser syntax checking, built-in image compression..."
D Moore, Globalnet

"It would go out and meet your client, find out exactly what they wanted, go and get all the artwork, go and get all the copy (and spell check it). Then after we've done the site it would go and get the site signed off with no interim tweaking stages. I'd call it Webtopia."
Paul Mallett, Brand New Media

"It would write clean, non-proprietary code. Treat JavaScript and HTML as a unified whole. Understand and deal with cross-browser compatibility issues, bugs and historical development in HTML. It would have fabulous multiple-authoring and version control, great site management and intelligent graphics handling. It would be entirely object-oriented. I'd call it Human".
Tim Ashley, Wicked Web

DAVID SIEGEL INTERVIEW

strategy one way or another. The biggest obstacle to making great Web sites is denial on the client's behalf – usually on everybody's behalf – that it's going to be worth the investment.

In our next book we're going to be talking to clients about how to involve the Internet in your everyday thinking about everything you do.

Q *And when will that come out?*

A Probably not until the beginning of next year. It's going to be a business book and will really sort out the reasons why people even want to come to a design firm and talk about designing a Web site.

Q *The situation with browsers has changed a lot over the last year. How do you think it will affect your job and design in general in the next 12 months?*

A We're just now seeing a significant percentage of 4.0 browser users hitting sites, so we're starting at least to be relieved of the burden of thinking about version 3.0 browsers.

We can now really look at what elements of Dynamic HTML are common to the two browsers and start using them. That's where a tool like Dreamweaver is actually pretty useful. The other thing I'm pretty excited about is that Flash is getting more and more widely accepted. I really wish the two browsers would just come with Flash built in.

Q *Do you think they will?*

A I don't know. I think that's a political question and it's not for me to call. Even so plenty of people are downloading the player and it's making for some petty exciting Web sites.

Q *What tools do you use to design your sites?*

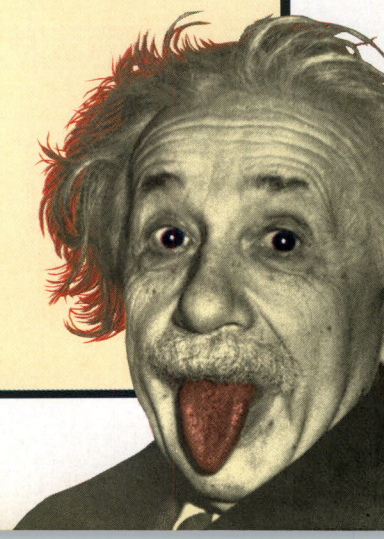
A I'm told that Go Live's CyberStudio and Dreamweaver are running head to head out there in the developer market. We're starting to use Dreamweaver although most of what we do still involves hand-cutting. I'm pretty excited about Fusion 3.0, it's very promising. They're the three front runners. If you never want to look at code use Fusion. If you want to look at code intently use Dreamweaver and if you're somewhere in between CyberStudio might be the right choice.

Q *What new Web technology do you think is going to be vital over the next year?*

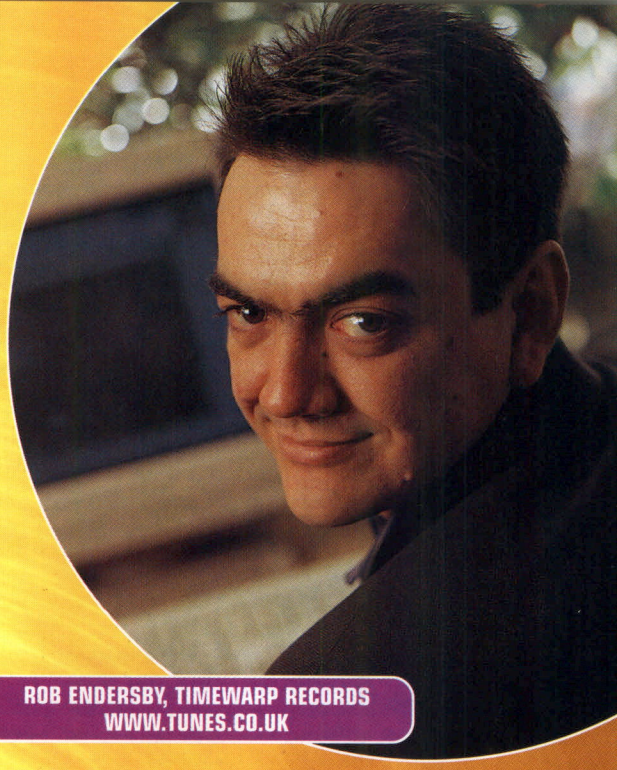
A I hope it's the style sheet. I hope and pray every day that the 5.0 browsers give us style sheets we can really use. Style sheets let us separate our content from the presentation and that's exciting.

Q *Is there anything you've done which you now regret in terms of Web design?*

A I designed a site for a client I won't name and it wasn't right for the audience. What I did was design a site for the client group, the people that were hiring me and paying me the money. I didn't pay enough attention to their customers and what was right for them. I should have stood up for the customers instead of making the clients happy.



A few words of ENCOURAGEMENT if you have ambitions on the Internet...



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The tools the experts use

grudgingly appreciative. "Flash has a poor interface, which makes the learning curve a struggle, but once you've learnt a few tricks the results are amazing."

But Macromedia's Shockwave came in for some stick. Sean Clark at Headland Multimedia was disappointed, "I always feel let down when my Shockwave creations fail to run under certain browser/computer/plug-in combinations. It seems that no matter how much you test Shockwave you always get emails from users saying your movies won't play on their computer"

Managing the site

Site management was an area of general dissatisfaction for our designers. Sean at Headland Multimedia voiced the concerns of many designers. "I've yet to find a Web design tool that's really good at site and content management. FrontPage, Fusion, SiteMill and Dreamweaver all offer site management features, but the killer app that takes the strain out of site maintenance has yet to arrive. Ultimately I want to hold a site's content in one database and put the design in another."

However, HTML Validator gets the vote when it comes to making sure your code is clean. The program picks up invalid tags.

Handy little bits

What list of Web tools would be complete without those bizarre bits of shareware, assorted plug-ins and add-ons, that go towards creating the ultimate Web toolkit. Here's the experts' selection of fascinating goodies.

Animagic won out as the top GIF animation tool. The files can be squashed by as much as 80 per cent, and you can pull in animations and individual frames from existing animated GIFs.

If you need to create an image map, Mapedit is the tool of choice among the professionals. The software supports client-side image maps which sit in your HTML page and are not too tricky to create.

Ulead's SmartSaver got the thumbs up from lots of our designers. It's an image optmizing tool that squashes down your graphics files. The software can also handle a smattering of image editing tasks, letting you crop and resample pics and set transparent areas.

Advice to protégé designers

"Learn and understand HTML first and it will make life a lot easier later on. When it comes to designing sites, don't just look at other sites for inspiration – try and be inspired by all the great photography, typography and design that's around you in all mediums."
Mike Slocombe, Urban 75

"You will only ever produce top-quality work as part of a team. No one individual has the right range of talents to produce a fantastic site by themselves."
Tim Ashley, Wicked Web

"Be the user. See everything from the user's point of view."
James Hilton, AKQA

"The Web is not a magazine or a movie. It's 3D. Think in 3D. Too many graphic designers think they can do Web design because it's got the same word in it."
Graham Miller, New Media Partner

"Research. If you don't know the product/company inside out, how will you present it to the rest of the world?"
Erin O' Neill, EON corporation

"I think the have-a-goers will be weeded out, so if you ain't doing it full time don't bother."
Annie Millar, WebPromote

"Approach a design brief from an unusual angle. If you're about to embark on a large Web site, try sticking parts of your body on a scanner. See what comes out."
Jason Holland, Head New Media

"Go for the lowest common denominator every time. Just look at what Netscape 3 supports, what IE3 supports, and what they've got in common. Don't do anything more. Leading edge technology is usually bleeding edge.
James Niesewand, mi2g

"Go easy on bevelled buttons. Be sparing with drop shadows."
Daniel Hart, Community

Regrets, I've had a few...

"Aside from my already documented 'let's author a Web site on acid' adventure, most of my regrets involve taking on too much work and missing out on vital Cardiff City FC performances."
Mike Slocombe, Urban 75

"I wish I hadn't installed the IE4 active desktop. Even though I've uninstalled it now, I still have nightmares about it."
Graham Miller, New Media Partner

"Creating a good-looking site that's a pig to maintain. We've learnt the hard way that you have to design for maintainability."
Sean Clark, Headland multimedia

"Using the 10011010101101 cliche in a graphic"
Daniel Hart, Community

"When Netscape first floated on the stock market, I told everybody to sell. Of course, I didn't do it myself. That'll teach me."
Tim Ashley, Wicked Web

Many thanks for their contributions to:
Matt Groves at 64K, Nick Farnhill at Deepend, Mark Desvaux at UUNET Consulting, James Niesewand at mi2g, Steve Roy at Redwood New Media, Sarah Morisset at Hyperlink, Mike Slocombe at Urban 75, Andrew Henning at Redweb, James Hilton at AKQA, Graham Miller at Edward Robertson, Sean Clark at Headland Multimedia, Erin O'Neill at Eon Corporation, D Moore at Globalnet, Annie Millar at Millaer Seale, Adam Bailey at W3 Design, Jason Holland at Head New Media, Beverley Nolan at New Media Factory, Daniel Hart at Community, Paul Mallet at Brand New Media, Tim Ashley at Wicked Web, Richard King at NetSet

The shopping list

Page editing

Macromedia Dreamweaver
Price *£249*
www.macromedia.com

Allaire Homesite
Price *$79 (downloadable version)*
www.allaire.com

Graphics tools

Adobe Photoshop 4.0
Price *£250*
www.adobe.com

Paintshop Pro
Price *Shareware version/full version $99 (around £58)*
URL www.jasc.com

Equilibrium Debabliser
Price *Lite version is $99.95 (around £58 /full version $399.95 (around £238)*
www.equil.com

Macromedia Flash
Price *around £170*
www.macromedia.com

Site management

HTML Validator
Price *$24.95 (around £15)*
www.htmlvalidator.com

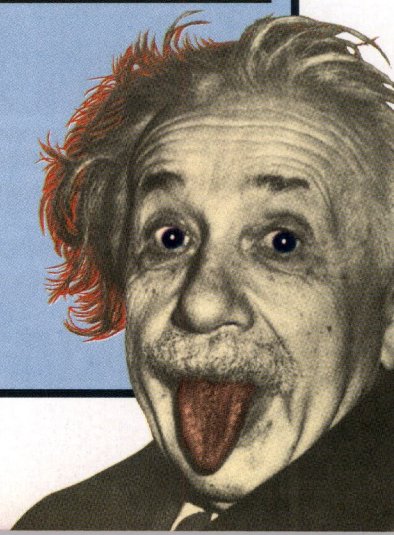
Handy utilities

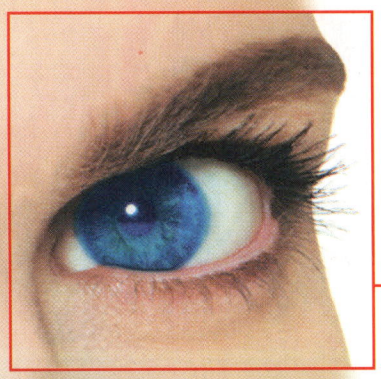
Animagic GIF animator
Price *$29 (around £17)/Free trial version*
www.rtlsoft.com/animagic

Mapedit
Price *$25 (around £15)*
www.boutell.com/mapedit/

Ulead SmartSaver
Price *$39.95 (around £23)*
URL www.ulead.com/

ON THE CD You'll find plenty of these top Web design tools on our free cover CD, so start designing the perfect site!





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It's a matter of national security

From hacks to hackers, business to backbenchers, free-speechers to the FBI – the leaked Government encryption policies have upset everyone. Mike Bracken sets the scene, hacker turned computer scientist Neil Barrett argues for more consideration, Ian Hosein of privacy.org claims that business has beaten free speech. And Danny O'Brien reckons we've all got it wrong

Illustration: Agent F, *Photo:* From *On Friday at Eleven*, Corona Film/Constantin Film (courtesy Kobal)

Online privacy! Email security! Digital commerce! Freedom of speech! Net taxes! Big Brother! Hackers! A Web-police state!

It's my guess that, some time within the last year, you'll have come across nearly all these headlines. And most of the stories will have been vague speculation on future scenarios where technology, or the state, has become a nightmarish vision reminiscent of *Blade Runner*. You probably sighed, turned over the page and moved on to some real news. Now, though, the first real attempt to organise and regulate the online world, in all its guises, is approaching Parliament. At first glance, a proposal to introduce an encryption policy based on Trusted Third Parties doesn't look like a headline-grabber but, as ever, the devil is in the detail.

Last year, the DTI issued a consultation paper that proposed to introduce Trusted Third Parties (TTPs). As well as users holding a key to encrypt and decrypt their information, a copy of their key would be lodged with a TTP (sometimes called a key recovery agency). This system is known as 'key escrow', and it gives Government bodies access to the keys on production of a warrant. As a result, the Government has access to any digital communication. What's more, only the Government would have the right to grant TTP licences.

Fine, you might think, but there are repercussions. If all the keys are in one place – a TTP – and the TTP itself is hacked, who knows who'll have access to your information? How easy will Government agencies find it to monitor your communications, and will you know when they're looking at it? Many businesses now also claim that key escrow is unworkable. Even Mastercard, Visa, Microsoft and Intel are busy lobbying the US Government to think again, following its decision, under pressure from the FBI and Defense Department, to plough on with its TTP policy. And what about the legal implications for freedom of speech and privacy?

The leaked news that the UK is to press on with TTPs has caused a storm. That encryption in some form is necessary for both personal and business purposes is beyond doubt, but this choice of route seems to satisfy no one. So let's throw open the debate to the experts...

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Trust through security

Neil Barrett is an ex-hacker, the author of *Digital Crime* and is now the principal consulant at Bull. He also advises the Government on various technology policies. He argues that more consideration is needed before these new encryption policies hit the statute books

The US schemes for key escrow are 'wrong-headed' and 'impractical'. So said the Labour Party when it was in opposition, commenting on the then Tory Government's stance on encryption, privacy and the conflicting needs of individuals and the law. Now it's in power, Labour seems to have changed its view – to the consternation of the civil libertarians.

On the one hand, individuals have a right to privacy. This is enshrined in both the American constitution and the European declaration of human rights. On the Net, this privacy can only be assured through the use of encryption. A simple email, for example, has much the same privacy as a postcard. Yet it's all too easy to fall into the trap of building an encryption policy based on governmental demands for secrecy, at the cost of individual needs for privacy. This could be the trap that both the US and the UK governments fall into.

Polarised views

These are the lines of battle that the pro and anti-encryption lobbies have drawn. Civil liberty organisations, such as the Electronic Frontier Foundation (EFF) in the US and privacy.org in the UK, argue that personal privacy and freedom are dependent on the personal use and control of encryption. These groups are all for encryption, but they don't want the Government sticking its oar in.

Business organisations such as the CBI argue that strong encryption is essential to protect commercial transactions in a hostile environment such as the Internet. Rather scarily, it reckons that without encryption the 'digital economy' will be stillborn.

The anti-encryption lobby in the UK – at least in the public's mind – is the Government, specifically the DTI and the law enforcement agencies represented by the Home Office. Their position is usually presented rather starkly: that strong encryption, by allowing criminals, terrorists and paedophiles to hide their activity, is a bad thing and should be regulated, resisted or artificially weakened to allow access to evidence.

For the pro-encryption lobby, the situation came to a head in 1997 when the DTI produced a consultation paper on regulations for Trusted Third Parties (TTPs). It looked like the UK Government was falling into line with US proposals for a key escrow system. The US recommendations state that strong, unbreakable encryption is legally permitted, but only if the decryption key is lodged with an independent body – a body that would release the key to law enforcement agencies if they produced the appropriate paperwork. This policy on encryption has been attacked by many interest groups, including the EFF and the American Civil Liberties Union (ACLU).

You just don't understand me

Now, following further discussions, the regulations are about to resurface, modified slightly, but still likely to cause an outcry. This is a shame: both sides of the argument have some excellent and relevant points but there's an immense misunderstanding.

First, the pro-encryption lobby in the UK has misrepresented the original DTI proposals. The plan was that these proposals would provide a framework for TTP to operate.

A TTP can provide a variety of trusted services:

- Most obviously, there's a digital signature. Attach a valid digital signature to an email or credit card order for example and your identity is guaranteed as long as the certificate is issued by a Certification Authority (CA), such as Verisign.
- A TTP will also store the encryption keys and the associated mechanism to recover the keys. A TTP that carries out this task is called a key escrow agency.

The DTI paper had to cover key recovery for two obvious reasons: first, the law might need to recover encrypted material. On a more practical level, the users themselves might forget or lose their keys. All of that is sensible enough, however the way that TTPs protect these keys wasn't made clear.

Importantly, the DTI paper didn't say was that UK encryption users had to use a TTP at all. Unlike the US Government, the DTI didn't try to outlaw personal encryption tools.

There's an important point here that's worth emphasising: neither the UK nor the US has any form of restriction on the use of strong encryption – the widespread availability of free tools such as Phil Zimmerman's Pretty Good Privacy (PGP) makes this impractical. True, the US Government has imposed restrictions on the export of encryption technology – only puny 48-bit keys are available. In a trial exercise, 56-bit key lengths have been allowed, but only where key recovery is available.

Email-loving criminals

So the DTI proposals were misrepresented, but it must also be said that the concerns of the anti-DTI faction were exaggerated. True, strong encryption is essential for e-commerce and ensures personal privacy. But it also provides a

Encryption resources

Given the diverse groups with something to say about encryption, it's no surprise to find that there's loads of Web resources out there. Here's some of the best.

EU policy papers	www.ispo.cec.be/eif/policy/
An interesting report by some very clever people	www.crypto.com/key_study
The Center for Democracy and technology	www.cdt.org/crypto/
An international survey of encryption use	www.gilc.org/crypto/crypto-survey.html
The internet privacy coalition	www.privacy.org/ipc/
The Electronic Frontier Foundation response	www.eff.org/pub/Privacy/
For the techies, the RSA crypto FAQ	www.rsa.com/rsalabs/newfaq/
For the UK government's line	www.open.gov.uk/
The LSE policy research group	http://techpolicy.lse.ac.uk
And find out what an ex-National Security Officer has to say	www.us.net/softwar/mcc.html

means of protection for criminal activities on the Net.

But it's here that the law enforcement hand has been overplayed. Criminals can use email, and if those messages are encrypted, police officers can't read and act on the information they contain. But it's not yet been made clear exactly what status any intercepted email would have in UK law. Law enforcement agencies can get hold of phone conversations with the help of an Interception of Communications Act (IOCA) order. But crucially, this doesn't allow the seized material to then be used as evidence in court.

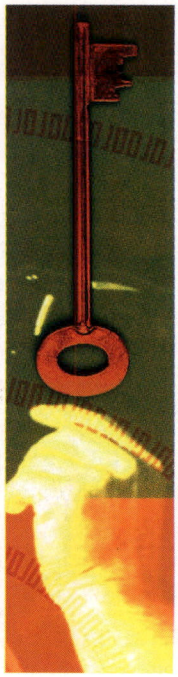
The IOCA Act doesn't apply to telecommunications which pass outside UK jurisdiction. An email will probably travel via overseas connections and so would be covered by the IOCA. This means the email is inadmissible as evidence when it's gone overseas.

The same problem applies to encrypted files on a PC if those files have been sent over the Net from oveseas, although this doesn't usually prevent a succesful prosecution. Take, for example, the UK investigations resulting from a 1995 operation called 'Starburst'. Obscene files and communications were encrypted using PGP. In one case, the accused refused to release the password, claiming to have forgotten it. However, there was enough unencrypted material available on the computer for the police to build a case.

> "We need a way of forcing accused individuals to release encryption keys, exactly as they'd be expected to release keys to their flats."

This is exactly what you'd expect. After all, the obscene images are there presumably because the suspect wants to look at them and that would be impossible if the images remained encrypted.

Research seems to suggest that the criminal dangers of encryption are being exagerrated. In 1997, a Georgetown University study carried out by Professor Dorothy Denning found a surprisingly low incidence of criminal or terrorist use of encryption throughout the world. In criminal or paedophile ➢



Stupid, stupid, stupid

Danny O'Brien, leading exponent of free crypto tools and author of the Net industry newsletter 'Need To Know', believes that the encryption proposals are so misguided they're risible...

I object to the plans to give private encryption keys to TTPs because the plans are stupid.

No matter what anyone says – and no matter how many hours you've spent puzzling out PGP – encryption isn't that hard. With a simple formula you could encrypt your hard drive up the wazoo. Lock it dead. Only you could unlock it with your password, and no one else could unlock it in 10,000,000,000,000 years. Great.

But what if you want to send that data over to someone over an insecure network, say – to pluck an example from the air – the Internet? Your data is already encoded, so no-one without the password can read it. But if you want someone on the other side of the world to be able to read it, you're going to have to give them your password. And if you give out your password over an insecure network... You can see the problem. Anyone who gets your password can unlock all your data.

There's no advantage to public key encryption if you give out your key. But let's assume for now that the Government isn't as thick as that. Why would anyone ever want to hand over their keys? One proposed reason is that businesses would like this kind of facility. 'What if they lost their keys?' says the Government, 'Wouldn't it be good to have a backup?' But public key encryption is best used for sending data across networks. Not for long-term storage. I could lose my private encryption key every day, and it wouldn't matter. As long as someone can get hold of my new public key, I'll be able to receive data using the new key pair. In fact, it's a good idea to change encryption keys regularly.

Believing that companies will use public key encryption to store data long term is like believing that they keep copies of faxes by recording the bleeps from the fax machine. This Government vision of a system is – here comes that word again – stupid. And if you don't believe me, check out the companies who recently joined the American Privacy Alliance: an anti-key escrow group in the US. Among the names are Microsoft, Intel, Netscape, Cisco, Sun, 3Com, AOL, Adobe, Lotus, Compaq, Mastercard and Visa. Surely anything that gets that group united has to be pretty stupid.

> "Only the stupidest of criminals would hand over their private keys to an agency"

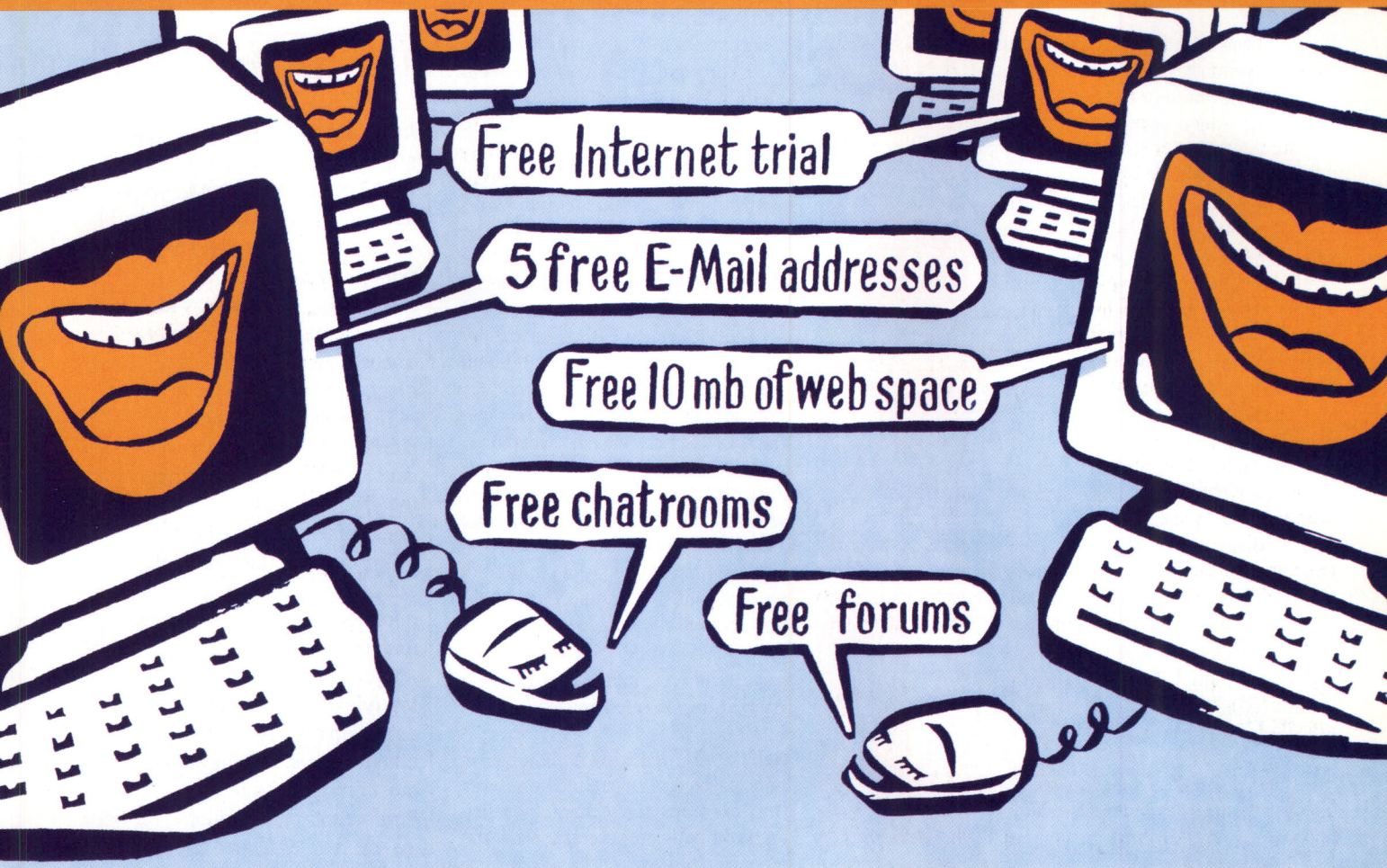
What about criminals? With public key encryption to encode data, no one could see what use they were making of the Net. If their keys were readily available from a TTP, claims the pro-escrow camp, law enforcement agencies could serve a warrant on a TTP, get the keys, and then monitor the suspected criminals. But only the stupidest of criminals would ever hand their private keys to an agency known to offer Law Enforcement Access to Keys (LEAK).

Criminals don't use public key encryption. Instead, they phone each other up, and say things like "I'll pick up the opera tickets near the... you know, that place." Pretty unbreakable encryption, incidentally, but it doesn't seem to bother most law enforcement professionals. Breaking codes is a tiny part of law enforcement. Handing over your private key would become an integral part of every Net business transaction: It would weaken Net security for everyone, in an attempt to catch a handful of incredibly stupid criminals.

So, if it's so stupid, why do governments persist in trying to introduce this legislation? The only reason I can see is that making people hand over keys to a TTP would make it much easier for covert security agencies (such as GCHQ, or the US National Security Agency) to monitor communications. Without it, these groups would be obliged to pursue much more public – and accountable – methods of getting hold of their data. I know that sounds paranoid, but given that businesses don't want it, and traditional law enforcement groups haven't asked for it, I can't think of anyone else who would push for it.

Of course, I have no proof of this, because no one from the UK security services will stand up and argue their case. But then again, maybe they think we're too stupid to notice.

NEWS SPORT WHAT'S ON FUN KNOWLEDGE MONEY SHOPPING TALK INTERNET



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It's what you want to know

cases, it was usually pretty easy to get the decryption key: it was either written down somewhere or the suspect told the police what it was.

A law too far

The bottom line is we don't need technical mechanisms to get hold of the keys. What we need – from a law enforcement perspective – is a way to force accused individuals to release encryption keys on warrant, exactly as they'd be expected to release physical keys to their flats or safe-deposit boxes.

The widespread use of encryption could certainly hamper police investigations, but so far it hasn't. The regulation of TTPs and the implementation of key recovery mechanisms are essential elements of the information society. Without them, encryption is a dangerous tool. One vital aspect of the encryption debate is missing, though. What measures and what assurance of security can the TTPs give to the consumer? Until we've got an answer to this question we should treat the whole encryption issue with caution.

I believe TTPs have a vital role to play in the digital economy. Their functions should range from the issuing and assurance of digital signature certificates, through to the running of document and email registries, to the provision of key recovery mechanisms. Equally, although there will certainly be criminals who will try to use encryption to protect their activities, this shouldn't be seen as a reason to restrict legitimate privacy. Unless we choose to, we shouldn't be forced to use a key escrow service at all.

The US policy is indeed 'wrong-headed' and 'unworkable'. Foreign powers hostile to US interests will get hold of strong encryption anyway – if they don't already have it – whether or not the US Government imposes export controls. US export controls should be removed and the UK Government should be working towards this.

Finally, if TTPs are really to be trusted, any new regulations should make crystal clear what standards they operate within. Once all of that's sorted out we could all believe that encryption is in safe hands.

Neil Barrett (neil.barrett@bull.net) is principal consultant at Bull. He advises the Government on technology policy and is the author of several books im

Update

As we went to press, there had still been no announcement as to TTP policy. Although we were assured by the DTI that the Government had agreed on the policy and were just formulating the best way to make an announcement, many analysts feel that there is disagreement at the top level.

The Demos think-tank claimed that the policy was causing problems at Cabinet level, with at least two ministers not supporting the TTP argument. Unfortunately, to add to the confusion, telecoms minister Barbara Roche is now unable to meet *Internet Magazine* for a face to face interview, and no one can establish exactly when the announcement will be made, most probably as a Parliamentary question.

What price privacy?

Ian Hosein, a researcher in the Technology Policy Research Group at The London School of Economics and Political Science, argues we need a healthy market that values privacy. And the TTP model of encryption is not going to help...

Cryptography is merely the mathematical art of concealing data – it works on the level of bits, letters and numbers. It has no idea what the words are or what they mean once they're put together. It's merely a shield, regardless of who's using it and regardless of the information carried. Cryptography enhances privacy in many forms – and although people may use this privacy against society, to plan bombings or partake in other antisocial behaviour, we shouldn't throw the baby out with the bathwater. Crime has always existed, and it will continue to exist, as long as society exists.

We shouldn't regulate cryptography just to pacify law enforcement bodies. The encroachment on our privacy rights is a dangerous move towards a Big Brother society. Surveillance brings power, so we must be cautious about who we grant these powers to and what their motives are. At what price do we sell our privacy?

On a smaller scale, we have a proposed widespread network of Trusted Third Parties (TTPs) which will provide these encryption services. A potential market is being hampered at birth, leaving us at the mercy of big companies who will 'look after' our privacy. These organisations will hold giant databases of your session keys or your private keys.

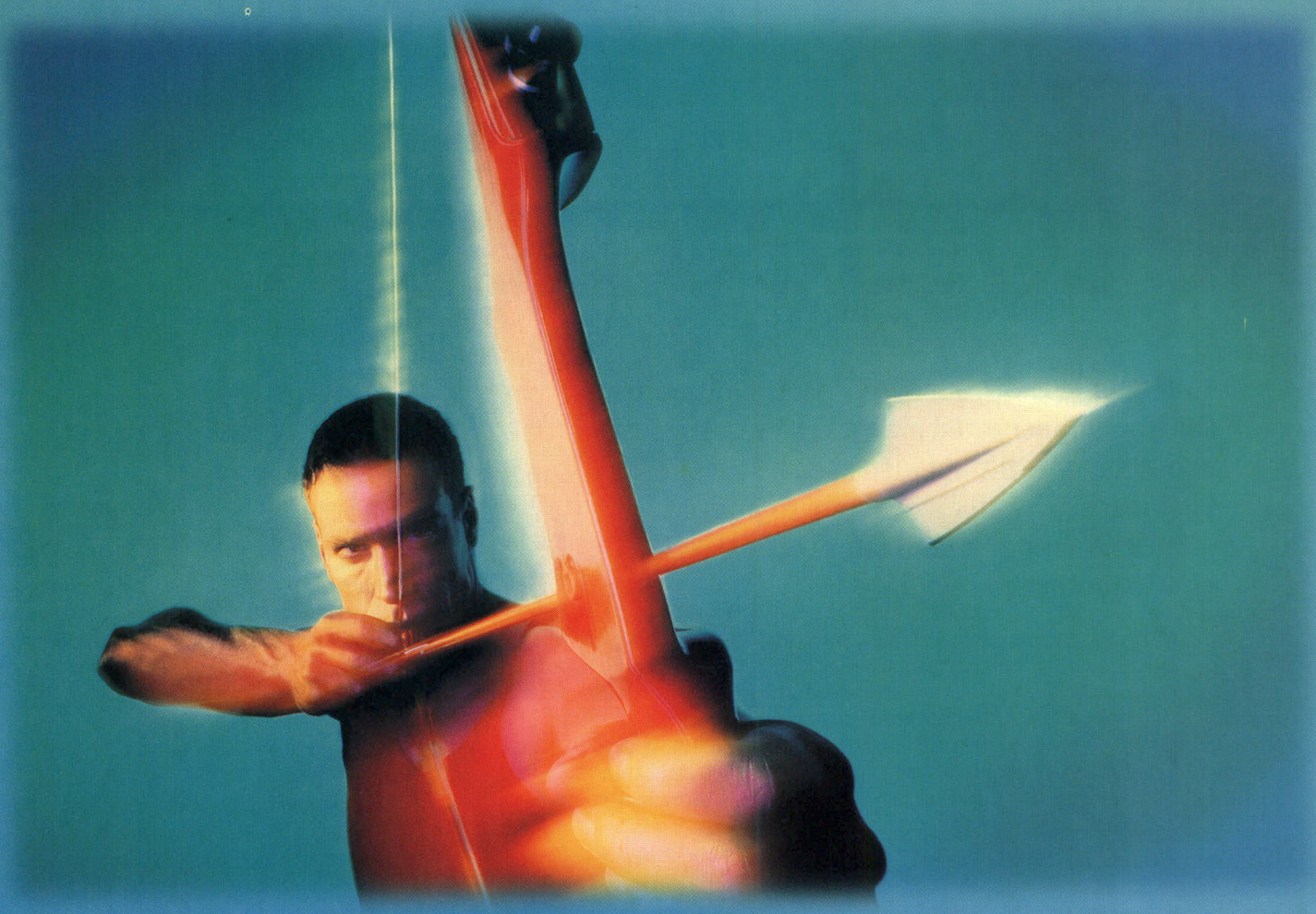
Your secrets are not your own any more – you have to hand them over to a TTP, and trust it not to release your vital information unnecessarily. If only AOL had known of this trust bond when it disclosed the personal information of a homosexual soldier to the US armed forces. Or when the IRS in the US found that over 300 of its employees used its database for fraudulent refunds.

Who can you trust when authorised users of the FBI's National Crime Information Center have been discovered misusing information on individuals' criminal records for political purposes? Perhaps you've got nothing to hide, and don't care if the community knows your sexual orientation, how much you've earned in the past few years or where you've been spending your money. The rest of us should be worried.

> "Your secrets are not your own any more."

The market for privacy is already unhealthy, and its future appears bleak. We've been forewarned of a possible backlash against strong cryptography. Any law enforcement officer could be tempted to intercept communications – it's easier than conventional methods of investigation. The next time a child pornographer is caught using PGP, or a rogue trader encrypts files using freely available software, or a terrorist plan is co-ordinated behind the shield of cryptography, there'll be little to prevent a massive backlash. After all, if we could have viewed these messages, we could have stopped everything in time, couldn't we?

Individual privacy is pitted against the security of the community. Until we truly appreciate the value of our privacy, its price will continue to fall. Perhaps the inevitable conclusion is that we never really understood or deserved our privacy, and we won't miss it until it's gone.



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Recorded delivery

Your email is not your own. As it travels across the Net, unencrypted mail can be read by just about anyone. It's not just a security issue for businesses, we all have a right to privacy. John Elliott reports, and offers advice on how to protect yourself

Surely your bosses can't read your email, can they? Think again. Snooping, copying, and circulating other people's email is one of the most prevalent and worrying aspects of Net culture. It's time to protect your privacy.

Most security breaches come from within, and most happen when unauthorised folk read unencrypted emails not intended for their eyes. The a simple problem with email is that anyone can read it!

So here are three crucial areas to think about when it comes to safeguarding your email.

ONE Impersonation

Did that email really come from the address it claims? The bottom line, is never believe a sender's email address. It's easier to forge an email than a sicknote from your Mum. You can try this at home. Just set the sending address and return address in your email software to **boris@kremlin.com** and send a few emails off – most ISPs don't verify the sending address, so your email will come from this new address.

If your ISP is wise to this, then it's still pretty easy to forge a source address. You could tell your email client to use a different outgoing mail server that's not as fussy. Or you could Telnet to any old SMTP server on the Internet and forge an email by typing it directly into the SMTP interface. OK, I'll stop here. This isn't a treatise on hacking, so we're not about to talk you through how to do this, but suffice to say it's not that difficult.

TWO Eavesdropping

When we talk about eavesdropping, we mean people reading the contents of your email without you knowing that it's been read. This can happen in three places: at the sender's ISP's mail server, the recipient's ISP's mail server, and as the message passes over the Internet. You just have to hope that the two ISPs involved – yours and the recipient's – have something better to do than read your mail.

Reading traffic that goes across the Internet is not quite so easy to do. Nevertheless, any service provider and backbone supplier can sneak a look at your email when the

Illustration: Cameron Law

traffic crosses their network. More worringly, a hacker could hide a packet capture program in an ISP's server and read your mail.

Of course, the other people who can eavesdrop on Internet traffic are governments. (The US and ours are particularly expert at this.)

THREE Modification

The most worrying potential problem is having your email intercepted and modified. If an email message addressed to you could be intercepted by someone else, read by them, and then changed before it's sent on to you, then you'd have a real problem. Purchase orders could be changed, instructions between employees modified... well, I'm sure you can envisage all manner of problems.

This can only happen if someone puts up a system that 'pretends' to be the recipient's mail server. This isn't as tricky as it sounds. All a hacker has to do is to make their way into the Domain Naming Service (DNS) and change the address of the server that accepts incoming mail for the recipient's domain. All mail would then be sent to this false address where it can be read and modified before it's sent on to the real mail server.

Can your boss read your mail?

If your Internet email connection is part of a company network – either because you're using an Internet email (POP) client on your network or there's a gateway between your LAN-based email system (for example, Microsoft Exchange or Lotus cc:mail) and the Internet, then your network administrator can read your email.

How email works

The core protocol used to transfer email across the Net is the Simple Mail Transport Protocol, or SMTP. The SMTP protocol is only used for sending email. All it does is make sure the sending machine identifies itself, says who the message is from and to, and then transmits the message. When SMTP first came into being, systems were simple. Messages were transferred across the Internet in plain (7-bit) ASCII. Anyone who can see the message stream go past can read your precious missives.

So what happens when you send an email? We'll track the passage of an email from **you@yourdomain.com** to **me@mydomain.com**. Compose the message in your mail application. When you click on the Send button, your mail client sends the message to your local mail server (**mail.yourdomain.com**). Once the message is received by this mail server, your mail software breaks your mail connectionto the server.

It's the job of your ISP's mail server to deliver the message to the mail server that accepts incoming mail for the recipient's domain (**mydomain.com**). It uses the Internet's Domain Name Service (DNS) to find the address of the mail server for **mydomain.com** – this is known as the MX record. While your ISP's mail server is doing this, your message is sitting on its hard disk. Once it's found the address of the mail server for **mydomain**, the message is sent over the Internet to this server, where the message then waits (on the mail server's hard disk) for me to pick it up.

But SMTP is only used to send email over the Net. Another protocol – the Post Office Protocol (POP or POP3) is used by mail clients to retrieve email. When I decide to pick up email, my mail client makes a POP connection to my ISP's mail server (**mail.mydomain.com**) and then supplies my username and password before retrieving my email. Just as with SMTP, the email then travels between my local mail server and my client in plain text – readable by anyone who's watching.

As far as security is concerned, there are two key points to remember. For a start, all email travels over the Internet in plain text and can easily be read. Second, your email waits on the hard disk of your ISP's mail server and on the hard disk of the recipient's ISP's mail server.

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Just about all implementations of company email gateways to the Internet will be 'store and forward' systems. Messages from your system to the Internet are temporarily stored on the gateway's hard disk before they're sent. Similarly, incoming mail from the Internet may wait on the gateway before it's sent to the LAN email system.

Now, unlike the system administrators at ISPs, your network managers often have nothing better to do than read your email. In fact, they might even be responsible for making sure the company email isn't being used to transmit libellous statements, company secrets to competitors or – in the case of incoming email – guarding the company from spam, pornography and viruses.

Indeed, several large companies have started to back up and monitor their email stores daily. Many were scared after Norwich Union was forced to hand over £450,000 to insurance rival Western Provident last year after the former was found guilty of email misuse. Just about all gateways can be set to keep a log of the mail passing through them, and to keep archive copies of those messages.

Many network administrators use tools to help them perform this very task. One of the most popular, MIMESweeper from Integralis, can search through all email messages looking for particular words.

Network managers should be wary of using the public Internet as a transport for inter-site email. When the emails cross the Net they'll be stored on ISPs' mail servers. This means the mail – which will be perceived by the users in the company as inherently more secure than Internet email – is subject to the same security concerns as all other email.

Email for life?

It's also time for a friendly word of caution about all those free email services on the Net. You know the ones that give you an email address that you can then set to forward to your own real address. As these services get all your mail before forwarding it to the POP mail server where you pick up email, they could theoretically read all your messages.

The question you should consider is, how well do you know these companies? By using these services, you're effectively saying that you don't mind them reading your email.

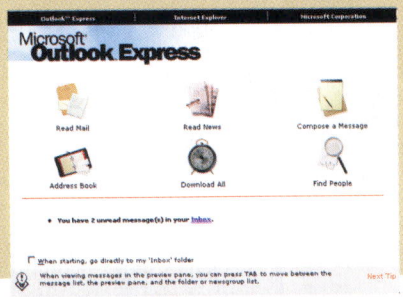
We're not suggesting that this happens with any of the free email services we're merely pointing out that it could.

Make your email package secure

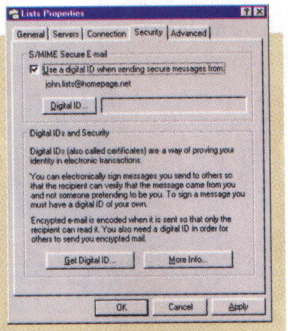
Microsoft Outlook Express

Microsoft's Outlook Express (and the just released Outlook 98) both come with built-in support for S/MIME, and both applications have passed the RSA's compatibility testing. For users of Outlook Express, all you need do is open your Mail preferences (Tools, Accounts, Mail, properties) and click on the Security tab.

To get a digital ID you click on the button and are taken to Microsoft's site and from there to Verisign, where you can get a free trial digital ID.



Microsoft Outlook Express ships with support for S/MIME

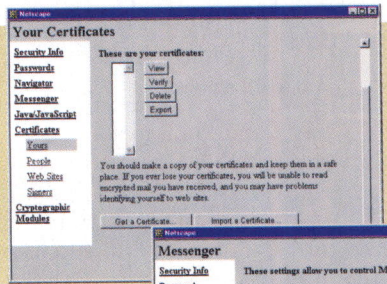


Telling Outlook you want to use a digital ID is easy

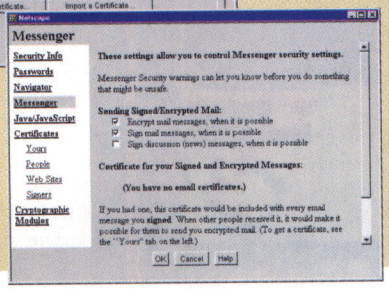
Netscape Messenger

Within Netscape Messenger there's full support for S/MIME. Again this has been compatibility tested by the RSA and so should work with other S/MIME packages. Just as with Outlook, all you need to take advantage of Messenger's ability to encrypt and digitally sign messages is a digital certificate issued by a third party certification authority such as the RSA.

To change the security setting used by Messenger you need to select Security Info from the Communicator menu. Go to Yours under Certificates to apply for and import your own certificates, clicking on the Get certificate page takes you to a list of certifying authorities at Netscape's own site.



View and install certificates in Navigator



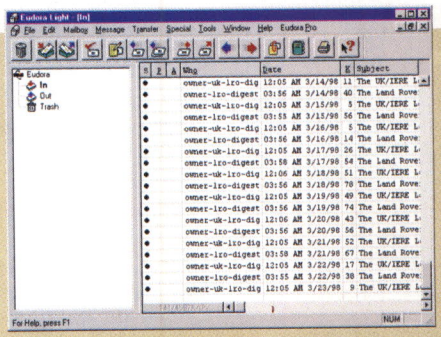
Then if you've got a certificate installed you can sign, encrypt and decrypt messages

Eudora

Version 3.0.5 of Eudora Light has built-in support for PGP. Unfortunately, US export restrictions on strong encryption mean you can't (legally that is) download a copy from the Internet unless you're a US citizen in the US – if you happen to fit that description, the URL to check out is:

http://download.eudora.com/export/

Non-US users will also have a problem taking a copy of PGP to use with Eudora – the plug-in isn't available for the International version (see the PGP box on page 56).



Eudora – we're still waiting for the PGP-enhanced version outside the US

What you can do about it

The only way to prevent impersonation and modification is to sign all of your emails by appending your own digital signature.

You can prevent eavesdropping by encrypting your message, which generally means using PGP or S/MIME (see box below). Both of these encryption technologies are widely available, and the one you choose depends both on how secure you want the communication to be and what you know about the recipient of the message.

S/MIME is about to be adopted as a standard by the Internet Engineering Task Force (IETF), and will be part of all commercial email clients in the near future. It's currently built into popular clients such as Outlook and Communicator, and is available as an add-on for Eudora. Find out which email packages use S/MIME at the RSA Web site **www.rsa.com/smime/html/interop_enter.html.**

PGP, on the other hand, offers a better degree of security than S/MIME as it's based on a longer encryption key. However, thanks to its 'cyberpunk' ancestry, it's not viewed in the same light as S/MIME by the major software companies. PGP isn't built into any of the mainstream email clients at the moment, but if you get hold of PGP5.5 (**www.nai.com/products/security/pgpfreeware.asp**), it integrates nicely with Eudora and Outlook.

The bottom line is that S/MIME is easier to use, and the chances are the recipient's mail client will support it. PGP is more secure, but probably means you and the recipient will have to download and configure the software before you can use it.

What to do

Well, that depends on who you're frightened of. If you're a terrorist or criminal, the only safe way to use Internet email is to encrypt it with some very strong (512-bit or better) encryption, such as PGP. However, if you're more concerned about commercial confidentiality, then the publicly available encryption packages, such as S/MIME, will generally suffice.

Personally, I'd always recommend PGP encryption above anything. And now that version 5.5 integrates with most email packages, there's simply no excuse for not using it. Other than the obvious one – the person receiving the email has to have the same encryption software to be able read your message.

For really simple encryption that just makes it 'hard' for people to read your email, the easiest thing to do is to type your message on a word processing program, save the file with a password, zip it (with a password on the zip file) and then attach it to your email. Of course, you shouldn't then send the passwords you've used over the Internet as this would defeat the whole object of the encryption. Instead, use another mode of communication such as the telephone or a fax.

After all, you never know who's trying to read your mail...

John Elliott is an Internet consultant and freelance journalist. Contact him at john@horcum.com im

Make your mail package secure

Pretty Good Privacy

Pretty Good Privacy (PGP) has been the preferred method of encryption on the Internet for some years – mainly because it's pretty much uncrackable and the software is available for most platforms. Download the software from SunSite UK.

ftp://ftp.doc.ic.ac.uk/Mirrors/ftp.ifi.uio.no/pub/pgp/5.0/international/win95nt/pgp50i-win95nt.zip

Or go via the PGP download finder.

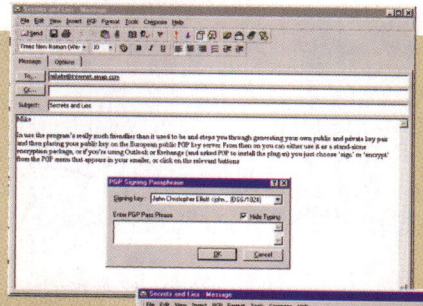
www.pgpi.com/download/

Version 5.5i of PGP is currently in production, and you can find out more details about this (and the ingenious way PGP has escaped US export laws) from the International PGP site at

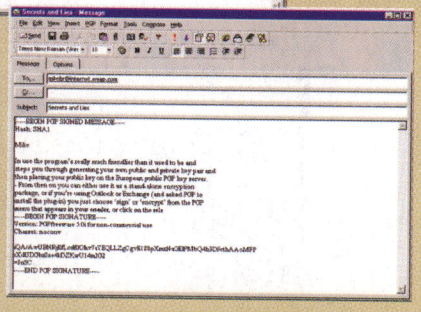
www.pgpi.com/

PGP really is much friendlier than it used to be, and it takes you step by step through the process of generating your own public and private key pair and then placing your public key on the European public PGP key server. From then on you can either use it as a standalone encryption package, or if you're using Outlook or Exchange (and asked PGP to install the plug-in) you just choose Sign or Encrypt from the PGP menu that appears in your emailer.

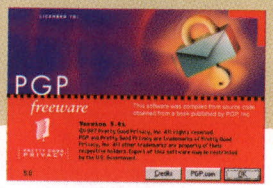
When version 5.5i is finally released (and it's promised to be very soon) it will also include the plug-in for Eudora .



To sign a message you just click on the 'sign' button and type in your pass phrase...



...and the message is signed within Outlook



Adding to email software

There are a number of third party mail security products out there for you can add to your email package. Some of these help you encrypt a message from within the package, and others handle encryption from outside your email software.

- Invincible Mail works with Pegasus Mail
  www.incrypt.com/imail01.html
- AEC's IronWare Mail is a stand-alone encryption tool.
  www.aec-security.com/
- RPK's InvisiMail works with any mail client and sits between your mail client and the mail server and works in the background. It can also be configured to work with mail gateways.
  www.invisimail.com/index1.html
- Mail Secure from Baltimore Technology is an S/MIME plug-in for any Microsoft Exchange client (Outbox, Outlook and so on). As it's been developed outside the US, offers 128-bit encryption.
  www.baltimore.ie/mailsecure.htm.

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msncompo@internet.emap.com

Or you can post your answers, marked 'MSN Competition' to Internet Magazine, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

If you didn't get an MSN CD with this issue, please call (0345) 002 000 and we'll send you one free of charge. The closing date for the competition is 15th June 1998.

The Questions

1 MSN brings you a satirical magazine at http://msn.co.uk. What is it called?

2 If you were thinking about buying a new car, which MSN service would you use?

3 Name two of the 'Essential' services on MSN.

Competition Rules

- All entries must be made with[in] free trial period and received by Magazine by 15 June. The free t[rial] competition are available to UK r[esidents] Only one entry per household. E[mployees of] Microsoft, Emap and their imme[diate] families and agents are not eligi[ble] All winners will be selected at ran[dom]
- The first randomly drawn correct[entry] win a weekend for two in Paris. T[he prize] includes two nights in hotel and [return] Eurostar. The trip can be taken at [a time] winner's convenience.
- The next six randomly drawn correct e[ntries] will win a free MSN account for one ye[ar]

[30] randomly drawn correct entries [will] [an] MSN Ruck sack [cash] [alternative] will be substituted in [lieu] of the prize.

[Micro]soft reserves the right to change the [prize]. The winner will be notified by the [MSN] email ID within one week of the [closing] date.

[Pur]chase of Internet magazine is [not] [necess]ary to enter this competition.

[Free] trial is available to new MSN [members] in the UK only. A credit card is [required]. Offer expires on 31st December [1998]. [Phone] connection charges are [applicable]. You can access MSN at local [rates] anywhere in the UK.*

Dial up and be counted

If you're not sure about the name of the resource you're after, try out the regularly updated What's New option

The main Open Government page at www.open.gov.uk There are masses of links to masses of information

Get a afternoon to while away? Try browsing through the Orgamisational Index

Try out the search facility if you know the resource you're after

Government is coming out of its dingy Whitehall offices and blinking in the sunlight. And we have the Internet to thank. Bill Thompson reports on how the new era of two-way communication with the powers that be could change your life forever

A few years ago, if you wanted to get hold of a Government report, you had to wait for it to be printed, write to ask for a copy, and then hope that a civil servant will send it to you. Nowadays, reports appear as PDF files on a Web site within days of their release.

This availability of Government information is one of the clearest signs of a radical shift in the way Government and citizens interact, and one that could prove as radical in its effects as votes for women. It's also a change that, although initiated by the previous Conservative Government, is being pushed through by Labour as if their future depended on it. Maybe they realise that a 21st century government can't use 19th century procedures to run the country.

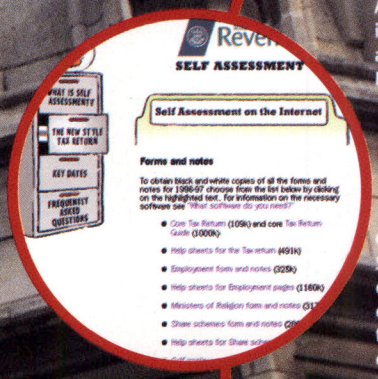
They go back a long way

While governments have been using computers almost since they were invented (some of the earliest work in computing was an attempt to calculate census returns more efficiently), it wasn't until the 1990 election of Bill Clinton and his technophile Vice-President Al Gore that the potential of the Net to change the way Government works really began to be explored.

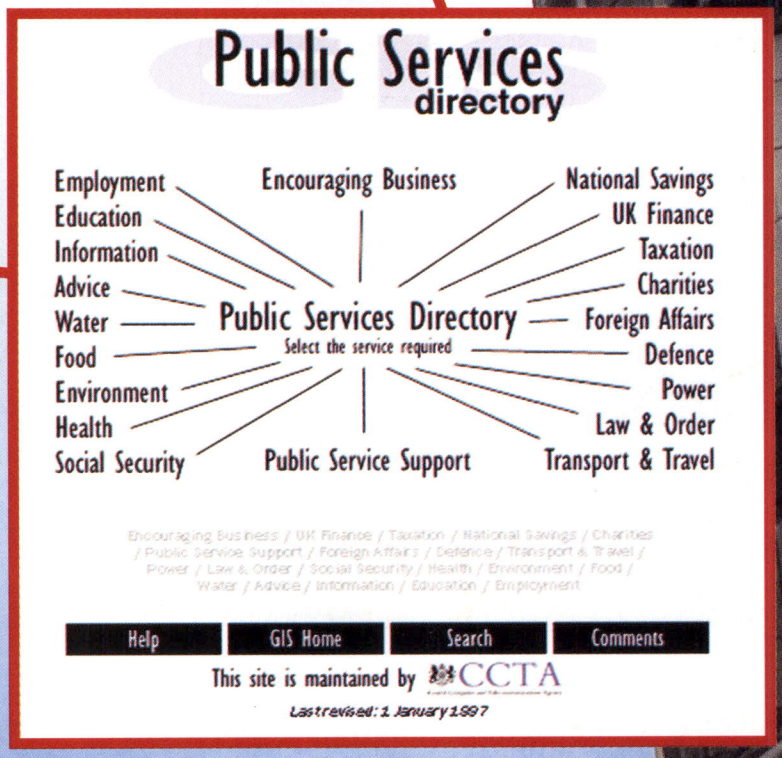
In his early speeches, Gore talked about a 'National Information Infrastructure' based around the Internet, which would deliver information and services to every home, office, public building and bus stop in the US. These inspired developments such as the White House Gopher server (later replaced by a Web site, www.whitehouse.gov).

We've chosen the Taxation option followed by the Inland Revenue. Here we are at the home of the taxman

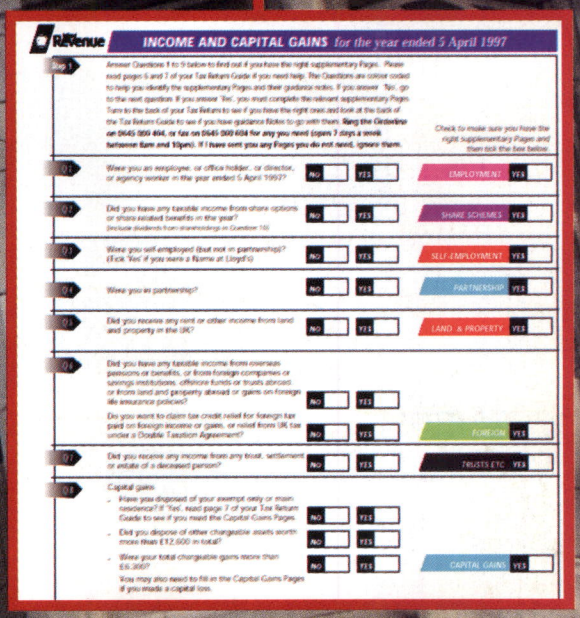
Click on Self Assessment for more info and to download a fab screen saver of Hector



Click on the New Style Tax Return option in the filing cabinet followed by the Self Assesment on the Internet option



From the main home page we've gone on a search for more information on self assessment. The first step is the Public Services Directory



OK, it might have taken a while, but finally we're there with a form in front of us. Phew!

They also gave other governments a model to work from.

The UK Government took an interest, largely through the Minister for Technology, Ian Taylor (now a Conservative backbench MP). He gave the Central Computer and Telecommunications Agency (www.ccta.gov.uk) the space it needed to work on a number of technology-driven projects.

Early successes included the launch in mid-1994 of the Government Information Service (GIS) www.open.gov.uk, a Web-based entry point for all Government-related online material, and the first online Budget speech (November 1994). The GIS site remains the best single Government resource, receiving over 200,000 hits a day (for others, see the box on page 64).

As sites were being built and services developed, politicians began to discuss the implications of the new technologies on the way Government works. They produced a discussion document called Government.Direct. Published in November 1996 (and available from www.open.gov.uk/citu/gdirect/greenpaper/index.htm), this outlined ways to give the public electronic access to Government services, and sprouted a handful of pilot schemes.

At around the same time, the Department of Trade and Industry started the Information Society Initiative to help businesses understand more about new technologies. The ISI (www.isi.gov.uk) has been joined by many other task forces, working groups and national initiatives, including the National Grid for Learning (www.dfee.gov.uk), the Cabinet Office Intranet, the UK National Inventory Project (www.tagish.co.uk/nip) and Direct Access Government (http://floor.ccta.gov.uk:8080/dagii/welcome.nsf).

Everyone is getting in on the Net act, but nobody in Government has managed to explain why they're making all this effort. According to a recent report from the Parliamentary Office of Science and Technology on Electronic Government (see www.parliament.uk/post/egov.htm), "there's a bewildering variety of activity in the field of electronic government" and "the so-called information revolution is upon us, whether we like it or not."

56K?

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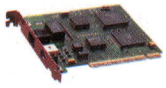

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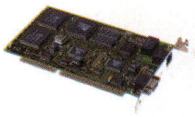

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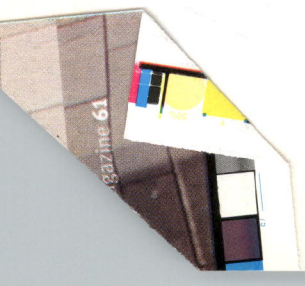

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INT 5/98

Paper Government?

Aside from the occasional call to the Benefits Helpline or the late, great Cones Hotline, the vast majority of dealings between citizen and State take place in meetings or on paper. At Labour's first Party conference in power, Tony Blair said: "We're setting a target that within five years, one quarter of dealings with government can be done by a member of the public electronically – through their television, telephone or computer."

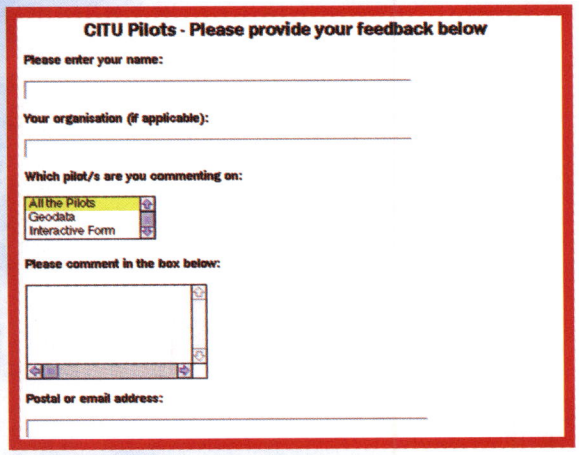
Delivering this pledge will mean a major shake-up in how government works at all levels. At the moment, the Government is primarily using the Internet as an alternative publishing tool. It has hundreds of Web sites holding hundreds of thousands of documents. If you want to know whether it's safe to swim off Cromer beach then three clicks from the GIS Home Page takes you to the Environment Agency (**www.environment-agency.gov.uk**) and their map of the UK, which lets you download the latest water quality data.

Taking a different tack, English Heritage has worked with 3D developers Superscape to build a virtual reality Stonehenge for you to walk through (**www.eng-h.gov.uk**). Or if you're a vet you can check out the aims and objectives of the Veterinary Medicines Directorate (**www.open.gov.uk/vmd/vmdhome.htm**) on screen.

Yes, it's admirable that so much information is now available and yes, there's been huge progress in the four years since the first tentative experiments with an online Budget speech (see **www.hm-treasury.gov.uk** for this year's), but Government use of the Net is still at an early stage. You can still access the first Budget speech posted onto the Net (from 1994, at **www.hm-treasury.gov.uk/pub/html/budget94/speech.html**). It's a good source of material for historians, whether you're interested in the economics or the history of Web design.

Many of the local government Web sites – and Yahoo! lists them all from Aberdeenshire through to York – offer the same sort of information-based service. But they're also a home for local tourist information.

The Macclesfield site is an extension of the Tourist Information Office and has little to offer local residents. Other councils, notably Manchester (**www.manchester.gov.uk**) and Cambridge (**www.worldserve.pipex.com/cambridge**) do more. They act as gateways to council information for residents. Cambridge has also installed several free public Internet access points to make the information available for all.



It is becoming possible to talk direct to government. Pictured above is the email feedback form for the CITU pilot schemes www.open.gov.uk/citu/pilots/index.htm

Many Government sites are big fans of downloadable material. The Inland Revenue (**www.open.gov.uk/inrev/irhome.htm**) provides more than the usual collection of PDF files, there's a program to fill in your self assessment tax return and even a screensaver (Mac or PC) featuring Hector, the cartoon taxman.

There have also been several attempts to use the Internet for consultation – the Government.Direct Green Paper was the first to be available electronically on the day of publication. With the recent Freedom of Information White Paper, the Government asked the electronic democracy group UK Citizen's Online Democracy to organise an online debate (**www.foi.democracy.org.uk**).

More recently, the online policy group Nexus held an electronic debate on the Third Way, a strategy for organising future government in the digital age, on behalf of the Number Ten Policy Unit (**www.netnexus.org/3way/**).

Making the change

But the one area where there's been the least work is the one which could make the most difference. Private companies are discovering that sites which merely present information don't bring in visitors. And a Government information service working all one way – they publish, we consume – won't change society. Giving citizens direct electronic communication with Government could. They could claim benefits when ill or unemployed, notify the registrar of births or deaths, or fill in tax returns. We all do business with the Government, and we could be doing it over the Net.

Some schemes resulting from the Government.Direct project are becoming more interactive. Developments include a Web site about Scottish land ownership, a way for small businesses to download electronic versions of forms (although they still have to print them out and post them back), a kiosk with information about the Citizen's Charter, and a Web form that lets you register as self-employed over the Internet (you'll find them all at **www.open.gov.uk/citu/pilots/index.htm**). We've got the chance to interact directly with Government departments and agencies and it's this two-way process that's exciting.

There are plenty of hurdles ahead – issues of security, confidentiality and service reliability for starters. What will force the Government over them is the non-stop pressure to improve the way it works, while simultaneously saving money. Some proposals, such as giving benefit claimants smartcards which can carry digital cash, instead of Giro cheques, seem likely go to through despite serious civil liberties concerns. The Gorvernment also plans to adopt commercially acceptable safeguards, such as the SET protocol used for credit card transactions.

Into Europe

Governments across the globe are developing online services. The US was first, putting information online on gopher servers and FTP archives.

Its citizens and Government are already interacting online. Predictably, it was the departments after your money, such as the IRS, who were the earliest to get on the electronic wagon. But now almost every part of the US Government has a Web site

(FedWorld at www.fedworld.gov is the best entry point).

The European Union isn't far behind the US. With 450 million citizens, the EU has a big job getting information to people, and the many official European languages make life even harder. The Net is an effective and attractive alternative to printing millions of pages every month.

After two or three years of rather piecemeal development of Web-based services, mainly managed by the European Community Host Organisation from its Information Market Europe site at www.echo.lu in Luxembourg, the latest project to emerge is by far the largest. Every one of the 1,200,000 EU directives – the laws of the Union – will be on the Europa Web site at www.europa.eu.int, along with information on draft directives and the rest of the legislative process. Now when you hear stories about Brussels trying to ban milk chocolate (true) or curved bananas (false), you can check the facts online.

Aside from making laws, the EU also funds research into computing via its Esprit programme. You can find out about Esprit and at the CORDIS site (www.cordis.lu). Here you'll see where the money goes, or you can chase your very own slice of the pie by applying for Esprit funding.

Future plans

Tony Blair's pledge to get a quarter of our dealings with Government working via new technology by 2002 has spurred creative thinking in every department. Many of today's pilot projects, like the 'intelligent' form for self-employed people and the use of smartcards for payments, will soon be rolled out nationwide.

In the short term, more of the plans outlined in the Government.Direct Green Paper will appear as Web sites. They'll even be accessed through kiosks in banks, offices or shopping centres. But the real changes will come from within. The Government Secure Intranet will link all of Whitehall.

As the way the Government operates changes, so will the way it interacts with its citizens. One proposal currently being taken seriously is to move away from the view of each Government department as a separate entity. And move to one where the services are assembled according to our needs – based on 'life events' such as birth, getting a job or retiring. And a Government which meets citizens' needs would surely be a good thing.

What's out there and where to find it

There are a vast number of Government Web sites and information services out there. They cover everything from Parliament to Whitehall and the Civil Service, down to the Executive Agencies (like the Benefit Agency) that carry out most of the day-to-day work. Local government is also well represented, with most councils offering at least a token Web presence and some (like Cambridge and Manchester) providing excellent sites.

The real problem is finding stuff. There is a single starting point – the Government Information Service or GIS at www.open.gov.uk This site has been the front door to all government online activity since the middle of 1994 – an eternity in Web years. It currently gets 200,000 hits per day.

The GIS has three main useful areas: a list of every site it links to in alphabetical order; a Yahoo!-style list of areas of activity (education, water and so on) with sub-lists of linked sites; and a search engine based around Muscat.

Although the search engine should be the best option, it's usually either too vague, giving hundreds of unsuitable hits, or turns up nothing at all. For example, a search for 'self-employment registration' when looking for the demonstration 'intelligent form', turned up over 1,000 hits, of which the most relevant was apparently a schools inspection report on a nursery in Norwich.

For most enquiries the functional index is faster – but even here there was no entry for 'Self-employment', forcing a visit to the Inland Revenue (appropriately located under Tax, by the way). See the screens on page 60 and 61 for more info on GIS.

Government resources

Central Government

CCTA Government Information Service (GIS)
The starting point for all local and national official Web sites
www.open.gov.uk

The Gateway to Parliament
Access to both Houses and more. Read debates and follow daily business
www.parliament.uk

The British Government's Information Society Initiative (ISI)
www.isi.gov.uk/

POST Homepage
Links to reports and other useful resources
www.parliament.uk/post/home.htm

Self Assessment
www.open.gov.uk/inrev/sa

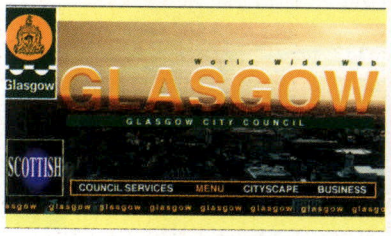
Inland Revenue
www.open.gov.uk/inrev/year2000/index.htm

Department Of Trade And Industry
Complaints Procedure, one of the few interactive areas
www.dti.gov.uk/complaints

The Cabinet IT Unit
www.open.gov.uk/citu/general/mwelc797.htm

CITU Pilot Projects
www.open.gov.uk/citu/pilots/index.htm
The notification of Self-Employment On-Line, is one of the more interesting pilot projects. You'll need IE4 though
www.self-employment.direct.gov.uk

The Chancellor's Budget Statement '94
www.hm-treasury.gov.uk/pub/html/budget94/speech.html



Local Government

Glasgow City Council
Heaps of tourist information
www.glasgow.gov.uk/GlasgowCC/home.html

Cambridgeshire County Council
Useful local service information
www.camcnty.gov.uk/index.html

Macclesfield Borough Council
Brochureware for visitors
www.macclesfield.gov.uk

Manchester
Shows how far you can push a site
www.manchester.gov.uk/index1.html
The Information City focuses on businesses in the area
www.manchester.gov.uk/mcrbus/strategy

Outside the UK

IM Europe
Best starting point for European Union online material
www.echo.lu/

European Science Policy
www.cordis.lu/

Singapore Government
http://obelisk.nmi.net.sg/fback/owa/govt.feedback

FedWorld Information Network
www.fedworld.gov

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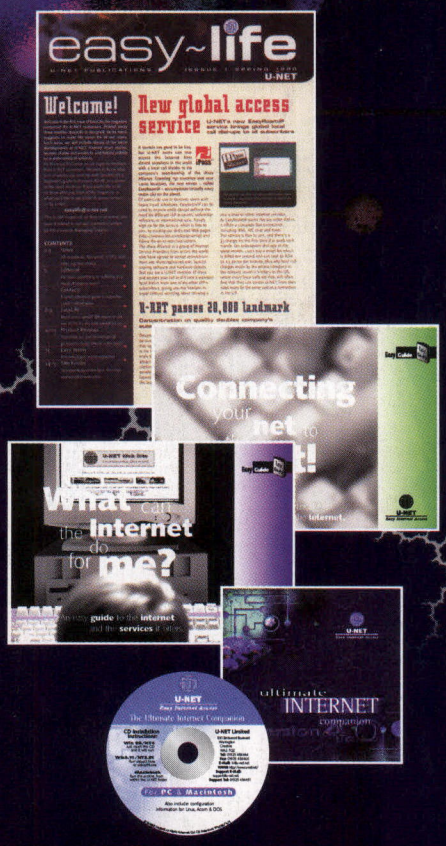

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- **Global Roaming**
  - International access at local call rates.
- **5 Mb. personal web page**
  for your CV, hobby or your business - really memorable URL: *www.hostname.u-net.com*
- **£12 to join (£14.10 inc. VAT)**
  and £12 (14.10 inc. VAT) per month or £100 per annum (117.50 inc. VAT) for single user modem or ISDN access.
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  at HE Institutes (and OU) qualify to join JANET dial up service - *http://www.u-net.net/services/janet/* from £68.15 pa inc. VAT.

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www.takeoff.beeb.com/

Yahoo! has introduced a hotel booking service taking content from Leisurehunt (**www.leisurehunt.co.uk**). The service lists over 31,000 hotels and B&Bs in the UK. Search by town, county or type of residence. Zoom in and out of detailed maps to find your destination and you can even reserve a room. Yahoo has struck a special price deal with 900 hotels and B&Bs . A loyalty scheme is planned.
www.yahoo.co.uk/travel/accommodation

Leave the key under the mat and swap your semi for something on the other side of the world. Home Base Holidays lets you search for a home swap from your front room. View the listings in non-membership mode or stump up £40 for a year's membership.
www.homebase-hols.com/

Walking and shopping tours, where to eat and what to do after hours. If you're looking to see Paris under your own steam, this site's a revelation, but be careful when typing in the title 'your own private Paris'. The font means you could spend some time searching for 'your own private parts'.
www.yopp.net

If Millennium Dome fever hasn't swept you into a frenzy, maybe you fancy spending the millennium's New Year celebrations on a bike ride with hundreds of lycra-clad foreigners. That's the promise of First to the Sun, a six-week, 11-stage bike ride across New Zealand. Find out if you've got a window free in your social diary between 18 December 1999 and 6 January 2000.
www.2000-first-to-the-sun.com

Meanwhile, the Loch Ness Monster has come out of hiding. The electronic version of the Imprint Local Guide to Loch Ness is OK as far as it goes, if rather text-based. Rather poorer is Imprint Publishing's Nessie screensaver. Nessie suffers from a bad bout of lethargy and spends more time offscreen than on.
www.ipw.com/lochness/

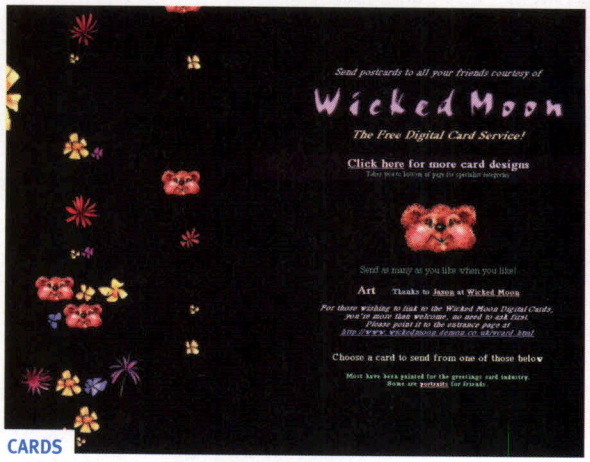
G-Mex knows when it's beaten. Its site offers a simple history of the G-Mex, but then directs you to Manchester Online (**www.manchesteronline.co.uk**), the place for all things Manc.
www.g-mex.co.uk

As for Bath, which has also just gone online, it's nicely designed (as you'd expect) but can be a bit fiddly, and a surprising number of its icons don't load anywhere. Perhaps this is meant to remind you of the notorious Bath one-way system.
www.bath.co.uk

And so to London, where the Brixton On-Line Community Network has moved from a low-key prelaunch to a swingin', if a little slow, site.
www.brixton.co.uk

If you like your cinemas luxurious, you may want to check out the Minema in Knightsbridge. The 68 sumptuous, extra-wide arm-chairs even make sitting through *Titanic* bearable. Comfort aside, the site design is drab in the extreme. Technicolor just doesn't get a look in.
www.minema.com

Watkins Bookshop issued its first catalogue of secondhand, antiquarian and rare books in 1896. 102 years on, the mind, body and spirit specialist boasts 35,000 titles and secure online shopping. A good show, but rather standard fare these days.
www.watkinsbooks.com



CARDS

Send and spend

If you're new to the idea of sending email cards (and the novelty does wear off), try these musical animated electronic greeting cards from Blue Mountain at **www.bluemountain.com**. Or how about designing your own online card? CyberCard prints and posts it for £2.50.
www.cybercard.co.uk
Wicked Moon Virtual Cards has been revamped to include a lot more designs and is proving to be many people's favourite on the Net. Send your free virtual cards from
www.wickedmoon.demon.co.uk/vcard.html
Full of charitable intentions and always wanted a a fluffy kitten on your credit card? Charity cards plug that gap in the market, letting you donate while you spend.
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Or get your Bank of Scotland/MasterCard emblazoned with your fave footie team. They're all here – well, a good selection anyway: Arsenal, Leeds, Everton, Scunthorpe...
www.footballcard.co.uk

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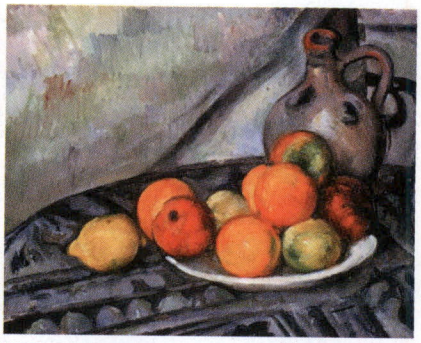

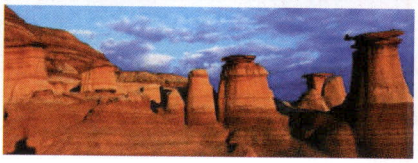

RETAIL

Art for art's sake

Another online print and poster store has taken to the stage, but this one's a bit different. Until now, the colossal Corbis collection was predominantly used by the print and publishing community. But in an effort to open up to a wider customer base, and no doubt influenced by the sound of virtual cash tills ringing, the 20 million images are now available to buy. You can even try out different colours and styles of frame before you buy.
www.corbistore.com

Why do they *do* that?

The scarey Bert is Evil site has scooped a Webby Award – in the Weird section, naturally. Sesame Street is under surveillance, and the site is brought to you by the letter H and the CIA.
http://fractalcow.com/bert/

Cops online lets you work out if you're over the drink driving limit, using a specially adapted Blood Alcohol Content (BAC) Calculator. After 15 pints, remembering your user name and password is difficult enough. Knowing your gender, body weight, type and time of drinks consumed is much more difficult than hailing a taxi.
www.copsonline.com/bac2.htm

GBNI stands for Gary Barlow News International, but then, of course, you knew that. It's the only site personally supported by Gary Barlow, but unfortunately there's no counter so you never know how many others have entered the great man.
www.garybarlow.mcmail.com

The Society for Funeral Directors is now focusing on another medium to entice the expired. Members can create their own sites from the societies site at **www.saif.org.uk**. One such member experienced a quiet day at the office, so took the day off and used a mere £250 to create his own page.
http://members.saif.org.uk/weir/home.htm

Celtic Connections specialises in Scottish home entertainment, and its site, constructed by Propeller Multimedia, is bulging with Highland cattle and Celtic knots. Video and audio search allows you to wallow in the plentiful tartan and sing 'Scotland The Brave'.
www.celticconnections.co.uk

The Nottingham Building Society may be a late online starter, but its site offers quick, uncluttered information on mortgages, investments, estate agency services, and insurance. Of course, it's kitted out in Lincoln green.
www.nottingham-bs.co.uk

The Royal College of Nursing site was developed within the University of Manchester, aiming to provide easier access to nursing research. English and Welsh sites went live earlier this year. Scotland and Northern Ireland will follow this spring.
www.man.ac.uk/rcn/

Following the success of its retail site (**www.dixons.co.uk**), Dixons has opened its trade site for business. Not as sexy as its first foray, this site deals with bulk order discounts and purchasing. Download a power-pack of information straight to your hard drive. The link to testimonials is curiously absent.
www.dixons-business.com

If you're looking for a job in the IT industry, Drax, Dearman Associates offers help with CV writing and interview techniques. Candidates can apply online for vacancies. If you need help, a consultant is on hand to help you out.
www.fss.co.uk

A site specifically produced to promote rugby that doesn't use sexy graphics to sell itself, but opts for the style of a newsy e-zine. This is a plus point as it means the site can provide a general overview of all things rugby. This includes women's rugby as well as a substantial collection of club links. One Rugby Place is a commercial Web site containing comprehensive news, reports, history and any other information. And you can get hold of all your rugby-related merchandise.
www.onerugbyplace.com

Gateway 2000 now offers a newspaper-style site. Gateway Prairie News keeps you informed of the latest happenings from the computer company, and you can customise and build you own Gateway system online. It's also now much easier to moooove around the site.
www.gateway2000.co.uk

The Formula 1 World Championship is now under way. Get your fill from the LineOne site.
www.lineone.net/focus/sport/f1/content.fhtml

Chateaux Wines flogs French wines, champagnes and port. The site is intuitive and offers advice on which wines to buy. Chateaux Wines has been in the wine trade for over 15 years, offering a friendly, reliable service.
www.btinternet.com/~chateauxwines/

If you haven't tried it yet, now's your last chance to catch the Silk Cut Sailing site. The final three legs should be the most thrilling. The site has developed a personality and attracts its own online community. It's the last opportunity to email the crew, and get a taste of what life's like on a 60-foot long boat. Choose from Flash and non-Flash versions and whistle along to the theme tune from *Jaws*.
www.silkcutsailing.com

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SPOTLIGHT ON...

Search engines

Search engines are a part of every online adventure. They're both essential everyday Net tools and successful online business models. Garret Keogh looks at some of the new upstarts on the market and decides which of the old-timers are still worth using

Just as every local pub has its wise old regular willing to offer a gem of wisdom in return for a few free drinks, so the Net has its well-established traditional search engines. No online visit is complete without a trip to Yahoo!, Lycos or AltaVista and, like trusty old sages, these tools often produce useful nuggets of information.

Like pub philosophers, however, search engines can also produce irrelevant drivel. They can be unpredictable and go through phases of usefulness. One of the problems is that Web developers have quickly learnt the best ways to ensure a high position on search engines. This means results often reflect these people's skills and knowledge rather than the power of the engine itself. On top of that, the sheer number of Web sites out there means that some of these tools are already becoming unwieldy.

With that in mind, a new generation of search engines and Net tools has started to arrive. These attempt to bring a certain amount of intelligence to the process of Internet searching. Although few boast databases the size of the likes of AltaVista, or the speed of some of their contemporaries, used correctly some of these new tools can become valuable companions. Targeted search engines that only look at a section of the Web, and engines which allow you to configure their results into a more readable format are popping up all over the place.

Ask Jeeves

Using an English butler metaphor for searches, Ask Jeeves' use of plain language questioning is its unique selling point. Rather than hundreds of responses, Ask Jeeves comes back with just a few, gleaned from the main search engines.

Its intelligence lies in how the software understands and translates questions. Results come from several recognised sources, but it's the phrasing of the question and the way it interfaces with existing search engines that's impressive.

The quality of Ask Jeeves' results depends on the search engines it uses. And it seems to work pretty well. I tried two tests. First I asked it where the Gardening Club was (it's a club in Covent Garden). Included among a number of responses relating to gardening and bonsai was the correct result, along with an address and contact details for the club (from AltaVista). Thinking this was too easy, I tried the question 'Who is Mike Bracken?' Ask Jeeves suggested *Internet Magazine*'s Features page, where I found our esteemed deputy editor Mr Bracken in all his glory. I was pretty impressed with the speed and accuracy of the results.

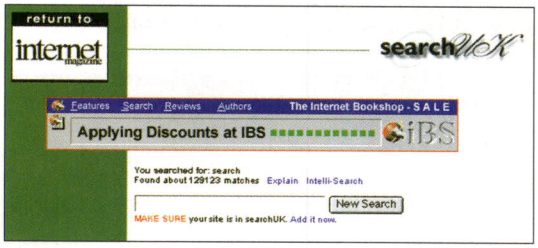
Ask Jeeves prides itself on building its databases from users' questions. Apparently its team of researchers has compiled millions of them. Going on my first meeting with Jeeves, it looks like becoming a loyal and trusted servant.
www.askjeeves.com

Targeted search engines

There are already plenty of localised search engines appearing. Most of the big names have UK versions, although these often only include local guides and advertising while the main engine stays unchanged.

These types of engines are now appearing the world over. To take one example, Australian and New Zealand users can peruse the fast and powerful Anzwers service at **www.anzwers.com.au**, which uses Inktomi technology to deliver localised results.

Vertical market search engines are also starting to appear. Exes at **www.exes.com** is a travel-oriented engine. A new service with a relatively small database, the software searches relevant travel sites such as traffic reports, live CAMs, immigration news, and visa information. Expect to see more of these types of engines appearing in the coming months.



Search UK

One of the emerging UK-only engines worth watching is Search UK at **www.searchuk.com**. Using a software searching bot called SuperEwe, the service also boasts an 'Intelli-Search' feature which, much like more powerful engines, allows you to use common database commands such as 'OR', 'AND' and 'NOT'. Other plain English phrases can also be used. Results are fast and plentiful, but often fail to hit their target. However, this service shows promise, and as its database builds, it may be worth returning to.

Northern Light concentrates on presenting search results in an easily digestible format. You can set up Custom Search Folders which organise your search results by subject, source or type – hugely useful for searches where thousands of results are delivered.

You can also search Northern Light's Special Collection, which claims to include content you won't be able to find elsewhere. This search engine seems to be asking all the right questions, and certainly makes searching a less frustrating experience.

Resources

Search Engine Watch
www.searchenginewatch.com

Comparing Search Engines
www.yahoo.co.uk/Computers_and_Internet/Internet/World_Wide_Web/Searching_the_Web/Comparing_Search_Engines

Webcrawler Search Ticker. Uses Java to watch what people search for in real time
http://webcrawler.com/Games/SearchTicker.html

The Establishment

The best of the top search engines

Lycos

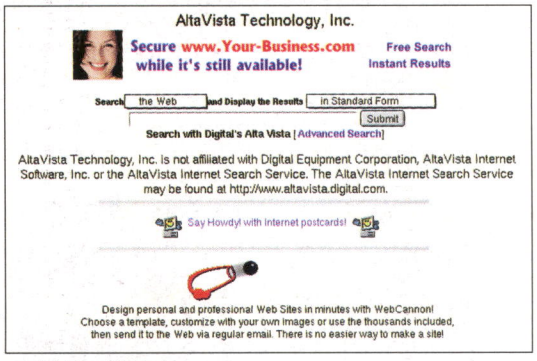
One of the original players and fast expanding beyond the core search engine, Lycos is now a major media player with a range of content. The search engine itself remains a serious competitor, with a large, fast and powerful database. Claiming to cover 55 million URLs, or over 91 per cent of the Web, Lycos continues to thrive. While other engines quickly outgrow their usefulness, the Lycos engine (which was the original software 'spider') copes well with the increasing scope of its search.

www.lycos.co.uk

HotBot

Compared with some of the others here, it's still a relatively new kid on the block, but don't let the involvement of West Coast technology magazine *Wired* put you off. HotBot is a useful, stable and impressive service. A fast-growing database with well over 54 million sites so far, it has the right mixture of big performance and intelligent results. At its heart is powerful Inktomi technology, which has the support of Microsoft, among others. Will probably survive longer than the magazine itself.

www.hotbot.com



AltaVista

Initially launched to show off the speed of Digital's own Alpha processors and servers, AltaVista has been a must on every bookmark list since 1995. The scope and size of the service remains impressive and results are usually the best of the bunch. The sheer number of results can be daunting, but additional user configuration facilities for both search and results continue to improve the service. Attempts to spin off a range of shrink-wrapped software haven't been very successful, but it's still a powerful brand.

It will be interesting to see how AltaVista develops after the acquisition of Digital by Compaq. Let's hope they don't mess with one of the most essential sites on the Web.

www.altavista.digital.com

Excite

Founded in 1995, Excite continues to grow and now resembles a Yahoo!-style information point, directory and free email service. At its heart is a powerful search engine, which can get lost in the extraneous information and commercial deals that fill the site. The free email service is part of the UK Government's initiative to equip every school pupil with Internet access.

Result quality can vary, but Excite usually finds a few relevant references not found elsewhere. I found a news story about one of my sites that I hadn't come across before. A search for Lard also used Excite's relationship with Music Boulevard to suggest I might like to buy a CD by the band of the same name. The company behind Excite is also responsible for the once great but now poor Webcrawler engine at **www.webcrawler.com**.

www.excite.com/
www.excite.co.uk/

Yahoo!

A bit cheeky, this one, as Yahoo! is a hierarchical index of sites rather than a search engine. But the size of the index and the integration of AltaVista mean that most Web searches start here. It's one of the biggest commercial successes on the Web. Added functions mean it's starting to spread itself thin, but Yahoo! still has a lot going for it. Although much depends on Web managers registering sites themselves, a prominent placing or 'cool' choice can bring instant fame and fortune.

www.yahoo.com
www.yahoo.co.uk

But in the end...

Sadly there's no one search engine that will answer all your needs. AltaVista and HotBot emerge just ahead of the pack, with Excite and Infoseek not far behind. If your requirements are fairly general, Yahoo!'s directory is comprehensive enough for many Web journeys.

The new boys have a long way to go to compete with the major players, but a focus on intelligent searching and results management means they're headed the right way.

In the meantime, the work has to be done by the end user. Find the search engine that consistently gets the results you want, and learn to use it more effectively. Get to grips with advanced functions and search techniques and learn how to phrase your search to get results. It's chaotic out there, but the power is available to bring a measure of control to the Web.

Testing, testing

Carrying out any useful test on these tools can be difficult. Client and network performance play such a role in any search that trying to time results is next to useless. I tried a more anecdotal approach and looked at the quality of the results received. I searched for an article I wrote on the McSpotlight site for *Wired* magazine back in 1996, titled 'Webbing the barricades'. I knew this feature was linked to from a number of sources on the Net and a number of mirrors of the McSpotlight site. This gave the search engines a good chance of finding it. The popularity of the McSpotlight site should, in theory, also make the link easy to find. The main URL I was looking for was **www.envirolink.org/mcspotlight/media/press/wired_dec96.html**, but I settled for any of a number of other references.

Results were interesting if a bit predictable (see the table below). AltaVista, HotBot, Lycos and Infoseek all did very well, although AltaVista came out top. AltaVista has been many Web users' favourite for a long time – the quality of results seems to be improving and it's faster than its competitors. HotBot's results were also impressive, and even though it's a fairly new kid on the block it should be an essential part of any online search.

ON THE CD You'll find the latest version of the Lycos software on our cover CD

Garret Keogh works as a content manager at CompuServe and is still responsible for www.lard.com

Top 10 search words

So what do most people search for? Here are the results for 30 days in mid-August to mid-September 1997 (hence the Diana reference) on the MetaCrawler service.

1. Free
2. Sex
3. Nude
4. Pictures
5. Warez
6. xxx
7. Diana
8. Pics
9. New
10. University

Source: The Washington Post, 26 October 1997

The results of my test search for the article 'Webbing the barricades'

Search engine	Number of results	Position of correct result	Search methods	Marks out of 10	The results
Excite	7,658	1	Straight search	9	Site on road barricades from a Californian local council site
AltaVista	10	1	Put exact phrase in quotation marks	9	Found the link to the copy of the article on my own Web site
HotBot	68	1	Put exact phrase in quotation marks	9	Found almost every link to the article
Infoseek	14,063,906*	1	Straight search	8	Linked to **www.thewebbingalbum.com**
Lycos	7	5	Straight search	7	Sales link for a 'Full body harness offering lightweight 2 webbing'
Webcrawler	655	0	Straight search	0	655 links with little or no relevance
Open Text	0	0	Straight search	0	Not a sausage

** pages containing at least one of these words*

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256K	£750	£950	£9500
512K	£750	£1350	£13500
2Mbs	£750	£3500	£35000

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SITE OF THE MONTH

If you want to be a record breaker...

Budget 98 set its site on being the first online entry in the Guinness Book of Records

UUNET, Deloitte &Touche and RJD New Media were aiming for their Budget 98 site to get an entry in the Guinness Book of Records. The record they were hoping to set was for the busiest site in the UK.

UUNET wanted the Guinness Book of Records to establish a benchmark for Web site traffic measurement. But, sadly, the GBOR hasn't quite caught up with modern technology, and is yet to create a category recognising Web site traffic. However, Vanessa Law, communications officer at Guinness Publishing, told *Internet Magazine* that "guidelines are being drawn up" and Guinness hopes to introduce a category in the future. But whether the award could be awarded posthumously is open to debate. Sorry guys, no gong this time. Better luck next year.

Site Of The Month

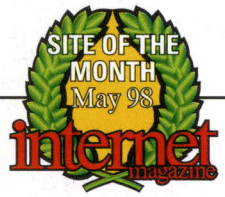
Budget 98

Designers *RJD New Media*

Development time
Four weeks

Development costs
Comfortably into five figures, but part of a contra deal

URL www.budget98.com



Working together

The Budget 98 site is very much a collaborative exercise, involving specialists from three companies.

Planned in a day, put together in four weeks and costing a "comfortable five figure" fee, the site details a Budget speech which lasted precisely 102 minutes. This amounts to around 4,000 minutes of work for each minute of Gordon Brown's rhetoric.

Deloitte & Touche (**www.deloitte.co.uk**) is one of the 'big six' firms of chartered accountants and management consultants. With the Budget acting as a focal point for the whole financial year,

In-depth Budget analysis is D&T's selling point

What The Competition Thinks...

Internet Magazine asked Budget 98's competitors to offer their comments...

The FT is a veritable veteran in its Budget coverage, and its site traffic nearly quadrupled on Budget Day. This was despite the fact that normal traffic is measured worldwide and the increase came predominantly from the UK.

Paul Maidment, editor of FT.com, cast a critical eye over the site for *Internet Magazine*. "It looks a nice site," he said,

"but the proof of the pudding lies in the quality of the information." He was surprised at the proportion of the site spent on straight reporting. "There's not a great deal of analysis, which is where I'd expect Deloitte & Touche to be at their strongest."

He's not a great fan of frame-based sites, and admits to being frustrated by Java-heavy sites, insisting they're likely to crash. However, he admits: "I do admire the clean use of the scrolling Java ticker as a navigation tool, although I'd prefer not to be in front of a laptop, dialling into the site."

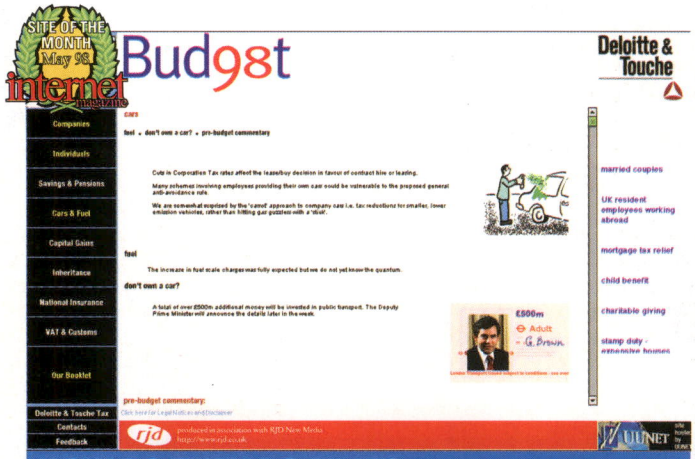
Although accountancy firms are used to in-depth commentary, they're not used to shorter deadlines. Newspapers face the reverse problem.

Maidment did voice worries over standards of editorial independence. "The FT comes from a non-partisan source, but it's easy to see accusations of a hidden agenda being levelled at Deloitte & Touche."

BBC News Online project director Bob Eggington didn't see the site on Budget Day, but his post-Budget analysis is positive. "The content is well written, in a neutral tone, and certainly informative, although I can't see the benefit of frames for the viewer," he comments. He's mindful that the site is clearly commercial in its nature. "There's nothing wrong with that in itself," he says, "but you have to be aware of the commercial nature of the site – the Deloitte & Touche tax services in particular is guilty of neglecting this."

It seems unlikely that commercial sites like this would ever replace public service

sites, such as the BBC, and Bob Eggington intends to throw the not inconsiderable BBC resources behind events such as these in the future. As for this year, well... the BBC got around 750,000 page views on Budget Day and 300,000 the following day.



HOW DO THEY DO THAT?

Build a Web site, register with the search engines, throw in a couple of ad banners and watch the traffic build. That's the theory behind most Web sites. Event sites are very different though, and Budget98 is no exception. We asked UUNET how it managed to handle the traffic.

"The whole thing was a learning process," says Richard Woods. Although the server managed to handle the heavy traffic, the sheer weight of numbers logging onto the site meant that its way already time to consider the alternatives. "In the future, we may put multiple Web servers on the main server, so that a director at the front end would pick up all the incoming traffic, which it would then move to another server."

ABC audited figures weren't available at the time of writing, but by the end of March, Budget 98 estimates indicated a credible 1.8 million page requests. 70 per cent of these came on Budget Day itself, 20 per cent the day after, and the remaining 10 per cent were spread evenly throughout the month. On the day, there were nearly 2,500 simultaneous connections to the server. "Although the server slowed down, it never fell over," says a relieved Hopkins.

The server hardware for the site was a Sparc with a 10Mb link. During the Budget the normally quiet Treasury server, hosted on a moderate UUNET 64K line for most of the year, was also beefed up. Budget 98 is planning to run until May. After that it'll be taken off the big server and archived on the Deloitte server.

D&T felt it needed to develop a long-term online strategy. To help do this, it pulled in RJD New Media (**www.rjd.co.uk**) and Internet service provider UUNET (**www.uk.uu.net**).

Cast your mind back to that fateful Budget Day and you'll remember a multitude of sites promising to be the first, best and fastest with Budget news. ITN offered email updates as well a live feed of the Chancellor's speech. The BBC delivered live reports from the Commons. "There were a lot of sites around," concedes Richard Hopkins, technical director of site designers RJD, "but everybody was publishing simple statistics – there was little real in-depth analysis." He adds: "Papers like the *Financial Times* can publish in-depth articles the following day on how the Budget will affect people, but we could get the analysis up there straight away."

The site took a rather high brow pitch. It wouldn't tell you how much a pint of Fosters and 20 Silk Cut would cost, but it did look at the Budget's effects on industrial sectors such as pharmaceuticals, manufacturing and motoring.

The Deloitte & Touche site did have live soundbites from the despatch box, but it was with refined comment and in-depth analysis that it hoped to shine. This became a possibility once the real details of the Budget were released from the Treasury, after Gordon Brown sat down. "At 9pm the heavyweight analysis began, and the team worked until 2am the following morning," recalls Hopkins. In total, a team of around 25 people was working on Budget Day, including 16 industry experts from Deloitte & Touche.

> "It wouldn't tell you how much a pint of Fosters and 20 Silk Cut would cost."

The idea for the site grew surprisingly quickly. A routine meeting between Deloitte &Touche and its new media supplier RJD left both teams wondering how they could best tackle the Budget. Richard Hopkins volunteered to dig around to see if there were any suitable domain name possibilities, and to his amazement found that no one had registered budget98.com or budget98.co.uk. "This was too good an opportunity to miss, so I immediately registered the names through UUNET," he told us. While he was there, he also registered Budget 99 and Budget 2000 domain names.

In a world where sites seem perpetually under construction, Budget 98 moved quickly. It adopted an aggressive advertising stance, even placing banners on the *Financial Times* site, a direct competitor on Budget Day. The *Financial Times* was quite willing to take the cash. Geoffrey Inns, account manager at FT.com, explains: "The FT takes a lead advertising approach, which means that one or two core advertisers tend to dominate. Deloitte & Touche simply came in with the keenest offer and moved the quickest." Paul Maidment, editor of FT.com, was confident that visitors would also come to the *Financial Times*. "People are looking for more than one opinion on the Budget, and they're not going to click off our pages without looking at the site first."

Traffic figures weren't in as we went to press, but the *Financial Times* site is predicted a registering eight million page impressions for March, a figure excluding any Budget traffic surge. im

Top Budget sites

Financial Times
Predictions, live coverage of the Budget speech in the Commons, and detailed analysis from *Financial Times* writers.
www.ft.com

BBC News
Live video from BBC1, audio from Radio 4 and Budget briefings on the big issues.
www.bbc.co.uk/

Arthur Andersen
The "most dynamic and fastest-growing accountancy firm in the UK" with information about the 1997 Budget!
www.arthurandersen.co.uk/uk/

KPMG
Budget Buster quiz, PDF file tax card and KPMG Tax Advisers' reactions.
www.kpmg.co.uk/uk/services/tax/budget98/index.html

Price Waterhouse
Another detailed report in PDF format plus 50 years of Budget history.
www.pw.com/uk/budget98.htm

The Parliamentary Channel
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www.parlchan.co.uk/

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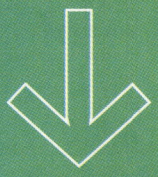

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Experts tell us how this month's top sites were built. Get the lowdown on the products the Webmasters use, the inside track on site budgets and tips on how to use the latest technologies

The Bill

How do you build a site for 10 million weekly viewers?

Flushed from its success with the site for *The Sweeney*, Pearson Television is now focusing its attentions on ITV stalwart *The Bill*. Pearson, along with PW Image Studio, is knuckling down to the task of setting up a site for this most famous of cop shows.

The site had a subdued launch. The content is restrained too. There are no digitally sampled sounds such as the ones you'll find on the popular Sweeney site (the phrase "Shut it!" has apparently been sampled 15,000 times).

"The site should be seen within a bigger rebranding of the programme," explains Tom Evans, digital and online project manager at Pearson Television. This is one of the reasons why the famous opening and closing credits have been left out. Evans recognises that all the bells and whistles are not there yet. "We want to get the basics right first," he says. "Only then will we be adding RealAudio and possibly RealVideo."

The simplicity of the site means that Pearson personnel can carry out their own updates. Programme times frequently need changing, and documents can be uploaded direct to the server. "All you need to know is how to open a file, and how not to take out a tag from an HTML document," explains PW Image Studio director, Stuart Ryan.

Paul Bennett

www.thebill.co.uk
Design ★★★☆☆
Content ★★☆☆☆

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The Sweeney www.thesweeney.com
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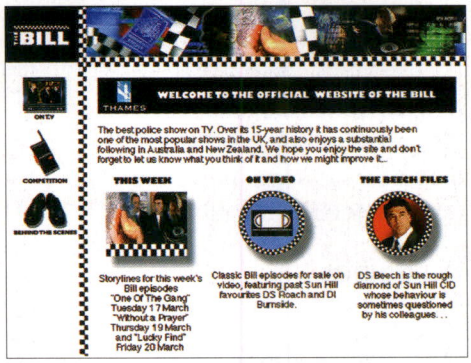


'Ello, 'Ello, who's scarpered with the sound files?

HOW DO THEY DO THAT?

The moving parts of the site, including the navigation buttons, were written in JavaScript. The opening montages were going to be in Shockwave, but time constraints meant the images had to be static. "We tried to steer away from effects that mean visitors would have to download plug-ins," explained Ryan.

CLICK HERE

EMI giving away sound clips and Vanessa Mae images, surely not!

Violin virtuoso Vanessa Mae may not have the time, temperament or technological knowhow to compile her site, but she knows someone who does. Dedicated fan Tommy Newman's Ultimate Vanessa Mae Site has been befriended by EMI, no less. To help him create his site, EMI sends Tommy promotional CDs, tour programmes, newspapers and magazines. "I don't have proper permission to put sound and pictures on my site, but as I'm sent things by EMI, and EMI knows I'm using them for my site, I think it's OK," he confides. Now if Tommy was an Oasis fan...

http://ds.dial.pipex.com/fntn/mae/vm.htm

Shell Ferrari

A site almost totally navigable from the cockpit of a Formula 1 car

The partnership of Shell, Ferrari and site designer Netcoms (the media arm of PR company Hill & Knowlton) has just launched the third reincarnation of its successful Formula 1 site.

The site revolves around the driver's view from a Formula 1 racing car – a Ferrari, naturally. Navigation tools appear where your speedometer should be. This means you do most of the navigating in the bottom portion of your screen. Transparent frames are used, so when you choose an option the pictures and text disappear behind the dashboard. "The permanent navigation bar display enhances the on-screen experience," says Alex Morritt, director of client services at Netcoms.

"The human eye can only absorb a certain amount of print, so if you can break this up with navigation guides, you're on the way to making a much more ergonomic site."

To get the full Formula 1 experience, visitors will have to download Macromedia's Flash plug-in, and although there's a pedestrian version of the site for elderly browsers, the site only really thrills when its frills are on. There's also a non-Java version.

Most of the documents on the site have been saved in Adobe's Acrobat Portable Document Format (PDF). The Acrobat reader takes a mere couple of minutes to download from **www.adobe.com**.

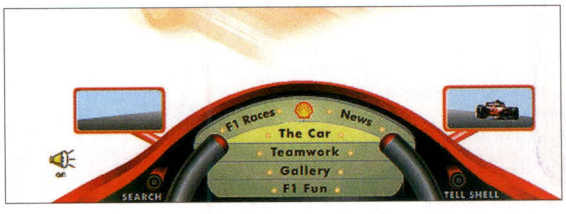
Last year's site would be hard pushed to make it off the starting grid up against this monster, although Morritt admits that the current speed of updates is slightly slower. But the mechanics are working on it in the pits.

Paul Bennett

www.shell-ferrari.com
Design ★★★★☆
Content ★★★★☆

ALSO ON THE STARTING GRID

Race Car
www.racecar.co.uk/contents.html
Autosport
www.autosportmag.com
F1 Picture Library
www.f1picturenet.com/



Get behind the wheel of this monster site

THE BUILDER

He dons his hard hat, shuns his fried breakfast and goes behind the scenes to bring us the gossip from the Web design industry

Big figures

I see myself as bit of a sprawled over the armchair sportsman, but I still like to take an interest in all things athletic. So imagine my surprise when IBM announced its official Nagano Winter Olympics Web site traffic figures. Big Blue (which, coincidentally, powers the site) released outlandish figures of 650 million hits. This is four times as many people as dialled into the official 1996 Atlanta Olympic Summer Games and more even than those who watched it on the BBC. Can't understand it. Sixteen days it was on, and no beach volleyball!

Busty figures

UK sites like Uploaded (www.uploaded.com) and FHM (www.erack.com/fhm) obviously need a radical rethink. The Uploaded flesh-fest is delivering a measly 2.2 million pages to its readers a month, while FHM is barely managing to eke out an existence with two million page impressions a month.

Balloons at the party

A funny thing happened to me the other day. It was raining and my period-style gable roof (work in progress – these things take time, you know) was going pear-shaped, so I skidded down the scaffolding and into the local until the wet weather passed. There I was having a quiet one in the corner, minding my own business – well, you know me!

So this guy with a suitcase comes up and offers me a packet of silver condoms emblazoned with the phrase 'Protect your assets on the Internet'. Turns out the prophylatics had only been half-inched from the NetNames (www.netnames.tm) stand at the recent Windows 98 show. The burglar must have been two ribs short of a tickler – he left behind £5,000 worth of kit and bottles of champagne destined for prize draw giveaways.

Steve Miller, marketing director of NetNames, was overheard saying that he didn't come to the show to "play cops and rubbers".

British Magazines

You need never visit your newsagent again

With 3,500 British magazines on the market, even the biggest WH Smith in the UK couldn't hope to stock them all, and why should it? Yet British Magazines Direct does, and then posts them out to you.

It's aimed at expats who can't get hold of copies of their favourite mag and folks in the UK who might have missed an issue. You can search for magazines by title or topic, or you can browse at your leisure.

United News Shops, the client for the site, had a few abortive attempts at getting the project going. Finally the company commissioned Headland Multimedia to pull it all together – in eight weeks! Luckily Headland had gained invaluable e-commerce experience through its work on The Shamen's site. "The most difficult thing was scheduling a number of strands of activity simultaneously," explains Sean Clark, multimedia director.

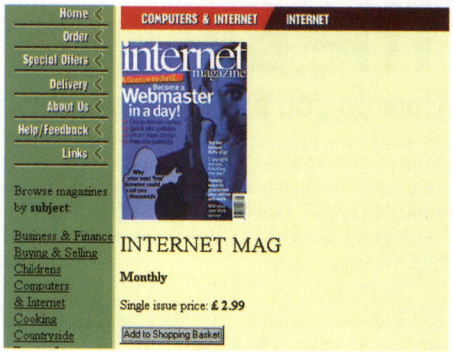
The site looks as though it's hosting three advertising banners, but these are just the site headers. There's only one banner ad: the site is part of the Link Exchange. Headland has realised the importance of site promotion and found a direct correlation between peaks in traffic and advertising for the site. Before the advertising, the site plodded along with what Clark calls "ambient traffic". It's now drawing in business from all over the world, including one £500 order from South Africa.

Headland looked at a number of options for coping with financial transactions at the site. In the end, Clark opted to use Perl script. When you're ready to input your credit card details, you're taken to the secure server.

A procedure will periodically update the covers. "Scanning in 3,000 magazine covers is a time-consuming task," Clark admits. "It's more important to get the price and details correct," he says. That would explain why the September '97 issue of *Internet Magazine* was on display.
Paul Bennett

www.britishmagazines.com
Design ★★★★☆
Content ★★★★★

ALSO ON THE SHELF
Electronic Newsstand
www.enews.com
John Menzies
www.john-menzies.co.uk/



Cover scans could do with more regular updates

NewsNow

A site that brings you all the UK-specific news – but is that enough?

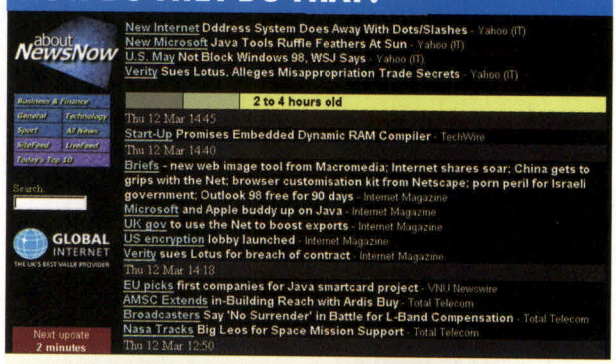
The folks at NewsNow don't write their own news: they bring stories together from a variety of sources. But in a world where every site seems to have a news feed, do we need yet another news aggregator? Well, NewsNow does a lot of the same things as everybody else, but it adds a couple of interesting and unusual details. The UK angle is key, as so many news services simply pump out US news. You're also told how old the story is (ranging from five minutes to several days).

NewsNow constantly scans more than 30 news services, picking up headlines along the way. The stories can then be sorted by source, topic or date. Struan Bartlett is the man behind the site, and development took around three months. A personalised news service is on the cards, as is flogging the news feeds to other sites. However, it's difficult to see where the revenue is going to come from. The likes of PA News and Microsoft are already bringing together news resources, and I'm not convinced that NewsNow can compete.
Gail Robinson

www.newsnow.co.uk
Content ★★★☆☆
Design ★★☆☆☆

NOT THE NEWSNOW SITE
MSN home page www.msn.com
PA News www.pa.press.net/

HOW DO THEY DO THAT?



The pulling in of the news headlines is all done automatically. Bartlett built the Headline engine in Perl and it scans news sources, pulling just the headlines into the NewsNow site

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(PLEASE PRINT) ☐ Mr ☐ Ms ☐ Dr

Surname _____ First Name _____

Job Title _____ Company _____

Street _____

Town _____ County _____

Postcode _____ Country _____

Phone _____ Fax _____

Email _____

2. JOB FUNCTION:

(Please tick only one)

01 ☐ Senior Mngmnt (Chairman/MD/President/ Director)
02 ☐ Website Development/ Management
03 ☐ MIS, Network Admin, Other Computer Technology
04 ☐ Financial/Accounting
05 ☐ Marketing/Sales
06 ☐ Content (Editor, Artist,etc)
07 ☐ Product Manager
08 ☐ Research & Developement
09 ☐ Other

3. SIZE OF YOUR ORGANISATION:

(Please tick only one)

01 ☐ 1-10
02 ☐ 11-50
03 ☐ 51-100
04 ☐ 101-500
05 ☐ 501-1,000
06 ☐ 1,001-2,500
07 ☐ 2,501+ employees

4. INTERNET PRODUCTS PURCHASING ROLE:

(Please tick only one)

01 ☐ Final decision-maker
02 ☐ Specify product or vendor
03 ☐ Recommend product or vendor
04 ☐ No-decision making responsibility

5. LEVEL OF RESPONSIBILITY IN MANAGING YOUR COMPANY'S

WEBSITE:		NETWORK/INTRANET:
01 ☐	Total	06 ☐
02 ☐	Substantial	07 ☐
03 ☐	Partial	08 ☐
04 ☐	Minimal	09 ☐
05 ☐	None	10 ☐

6. PRODUCT INTEREST:

(Please tick all that apply)

001 ☐ Internet Access (Dial-up/Leased Line)
002 ☐ Web Page Authoring/ Design
003 ☐ Servers
004 ☐ Operating Systems
005 ☐ Security Products
006 ☐ E-mail Software
007 ☐ Modems
008 ☐ E-Commerce/Transaction Software
009 ☐ Web Multimedia (Audio/Video/VRML etc)
010 ☐ Network/Intranet Hardware
011 ☐ Network/Intranet Software
012 ☐ Website Development/ Hosting Services
013 ☐ Measurement Tools
014 ☐ Content/Content Developers
015 ☐ Databases/ Personalisation
016 ☐ Internet Telephony
017 ☐ Other (please specify) _____

7. COMPANY'S PRIMARY BUSINESS

(Please tick only one)

001 ☐ Internet Service Provider
002 ☐ Website/Online Service
003 ☐ Web Hosting/Site Development
004 ☐ Computers/ IT-Integrator/VAR
005 ☐ Computers/IT-Hardware Manufacturer
006 ☐ Computers/IT-Software Developer
007 ☐ Computers/IT-Retail/ Wholesale
008 ☐ IT Management/ Consultant
009 ☐ Marketing/Advertising
010 ☐ Media/Content Owner
011 ☐ Finance/Banking/ Insurance
012 ☐ Government/Defence
013 ☐ Healthcare
014 ☐ Education/Training
015 ☐ Manufacturing
016 ☐ Retail/Distribution
017 ☐ Travel/Leisure
018 ☐ Construction/Engineering
019 ☐ Telecommunications
020 ☐ Entertainment
021 ☐ Transportation/Utilities
022 ☐ Pharmaceutical
023 ☐ Oil/Chemical/Agriculture
024 ☐ Other (please specify) _____

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INTERNET

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site surveyor

Leaving the party

Don't ask London agency Webworks anything at the moment. It appears to be suffering from a Web design condition called ex-client amnesia. All the work it did for the Conservative Party has been expunged from its client list. It used to be whispered that the old Tory site was notable for the (alleged) use of the filename 'conman.html' for the Web page outlining the Conservative Manifesto. Unsubstantiated rumours persist that the file was renamed 'whatmanifesto.html' and now exists only in a password-protected secure server.

Webworks is not the only Web Designer with a selective memory. The Builder will be bringing you a list later on this year.

Beautiful people... and me

The latest Computer Channel relaunch at the Hamilton Galleries just off Grosvenor Square brought home the difference between real and fantasy people – or the press and the TV industry. More champagne and hors d'oeuvres on offer than I'm really used to. I was politely ushered into a corner and told to tuck my shirt in.

Better copying than Xerox

Port80 has been at it again and this time it's just giving it away. You may not have played with a Java Script 1.1 Slide Puzzle since you were a toddler, but then I'll warrant you've not shuffled Caprice's pieces. It took me eight moves to put her together again. Anyway, some wide boy geezer apparently nicked the code to the puzzle, passed it off as his own and then stunned a potential new employer with his speed and skill in setting it up.

Another case of cowboy builders. Always go to a reputable source – me!

RAC goes crazy at awards

Whereas *Titanic* scooped 11 Oscars, one online equivalent, the Revolution awards, gave the RAC only two: the 'Best online advertising' award and the most verbose award – 'Best use of new media in an integrated marketing campaign'. Damon Reynolds, one of the site managers, choked back the tears to utter the memorable: "We are delighted to have won the award."

The Builder scratches his bum, then scratches the surface of the latest happenings in the online design world. If you're a designer, if nobody else will listen, and if you can be bothered, email me at **thebuilder@internet.emap.com**

ArgoSphere

Solving the problem of attracting people to a site when they're not even on the Net yet

So what makes this educational Web site stand out? First, heaps of unique content. Second, it's free. And third and perhaps most surprising of all, visitors don't even need an Internet connection to experience it.

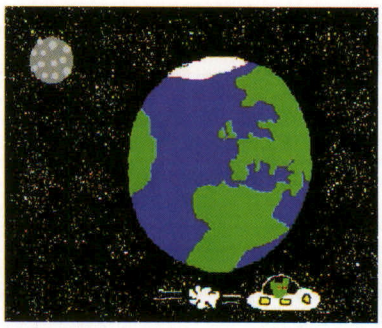
I'll let Ian Goodall, sales and marketing director of ArgoNet, explain. The site was his brainchild, and he spent half a year putting it together using FrontPage before finally launching it at the BETT Show on 14 January this year. "We saw there was a lack of good content for young children," he says. "We produce this type of content and are simply using the site as a delivery mechanism. Not all of our potential customers have networks or access to the Internet, and we want as many people as possible to see the content." Pretty straightforward stuff, despite the fact that, as Goodall freely admits: "There's over £1,000 of software if you were to sell it."

ArgoSphere is the Internet arm of ArgoNet (**www.argonet.co.uk**), recently floated on the stock market to provide money for investment. What's peculiar is that ArgoSphere has committed a substantial part of its marketing budget to people who're not on the Internet.

But the idea behind the site is commercial rather than charitable. ArgoSphere is an educational ISP. "Twenty-two thousand primary schools will be going online in the next few years, and we're shooting for a decent chunk of that market," says Goodall.

The site content is good. So why not copy it to a floppy, email it as an attachment or print it out and send it to friends? You can choose exactly what you want to download. If you're not paying for your Internet connection, play the educational games online. If you've got one eye on the telephone bill, copy the zipped-up files to your hard disk and play them offline later.

Paul Bennett



Planet Earth is one of the activities available from ArgoSphere

HOW DO THEY DO THAT?

An original part of the site is the ability to test your browser. How many primary school children know whether the browser they're using supports animated or transparent GIFs, frames, tables or JavaScript? The site guides you through each technology, telling you if it's supported or not.

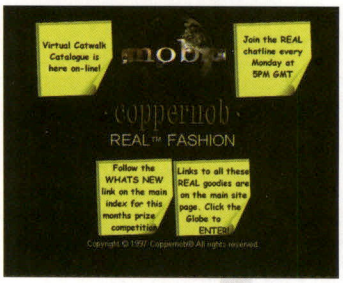
www.argosphere.net
Design ★★★☆☆
Content ★★★★☆

SIR, SIR, I'VE HAD MY HAND UP FOR AGES!

CampusWorld
www.campus.bt.com/CampusWorld/
Research Machines www.eduweb.co.uk
BBC Education
www.bbc.co.uk/education
National Council for Educational Technology
www.ncet.org.uk

CLICK HERE

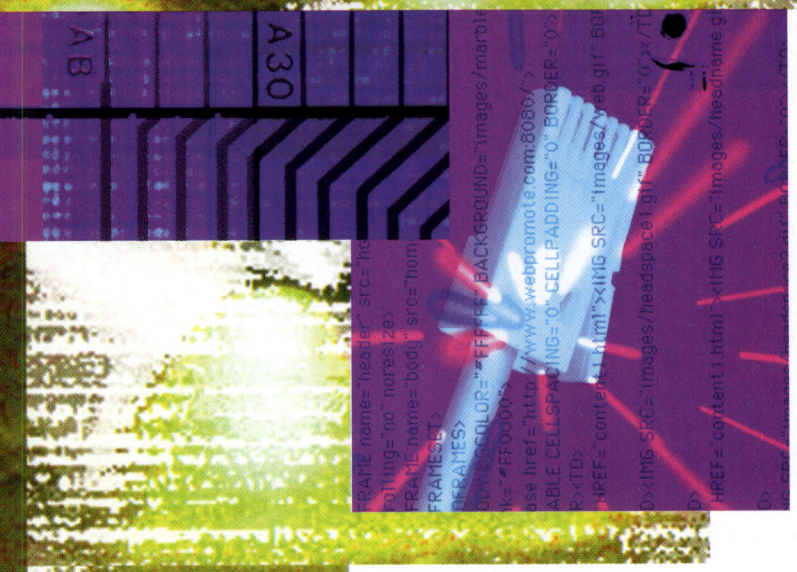
A shining example of the good use of animated GIFs



Not some metallurgical and biological disease, but a funky, dancing, rhythmic clothes emporium. It's not until you're well into the site that you finally find out what you've stepped into, but that seems irrelevant. What the site does show is that yes, you can use animated GIFs to good effect. Yes, Shockwave Flash is the best thing that's happened to the Web since Real Audio. And yes, sites like this actually work. If you're struggling with basic HTML, use this as a benchmark to see how far you've got to go.

www.coppernob.com/

Need more targeted traffic to your web site?



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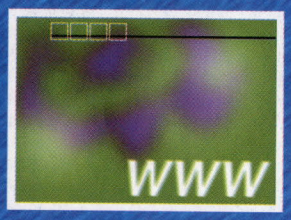

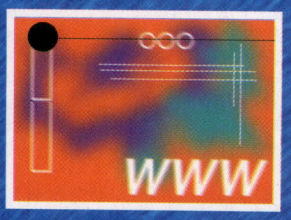

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GERMAN Domain (.de)	£ 165
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e-commerce

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Hot Downloads

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Ten vital browser plug-ins

Macromedia Shockwave
www.macromedia.com/shockwave
To see the coolest Web site effects, you need the Shockwave plug-in. And while you're there, download the Flash plug-in.

RealPlayer
www.real.com/products/player/index.html
Play back live audio and video over the Web with this one.

Adobe Acrobat Reader
www.adobe.com/prodindex/acrobat/
Thousand of files on the Web are now stored in Adobe Acrobat format. If you ain't got the plug-in, you can't read 'em!

Cosmo Virtual Reality
http://cosmosoftware.com/
The universal player for VRML 2.0 content. Twenty million copies downloaded already.

Plugsy
www.digigami.com/plugsy
Sorts out plug-in conflicts under Netscape Navigator.

Quicktime
www.apple.com/quicktime
Cross-platform multimedia playback from Apple. Invaluable.

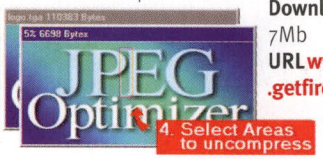
Alexa
www.alexa.com
A more intuitive way to browse the Web, Alexa tells you more about where you are and suggests where to go next.

Beatnik
www.headspace.com
Excellent, interactive music-playing on the Web for Navigator users.

IE4 PowerToys
www.microsoft.com/ie/ie40/powertoys
A whizzy set of add-ons for Internet Explorer.

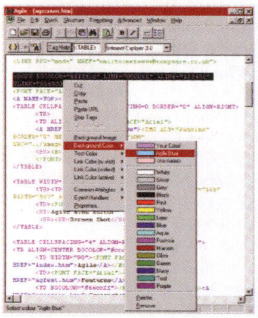
ViruSafe Web
www.eliashim.com/
Scan for viruses as files are downloaded.

JPEG Optimizer
Squish those images with this freebie. The company is claiming more JPEG compression than any other program – well, they would, wouldn't they? Nevertheless, a 50 per cent compression rate shouldn't be sniffed at. Neither should being able to compress some areas of an image more than others. Files are previewed in real time, so you can see exactly how they're going to look before they hit the Web.
Price $29 (around £17)
Platform Windows 95/NT
Download size 1Mb
URL www.xat.com



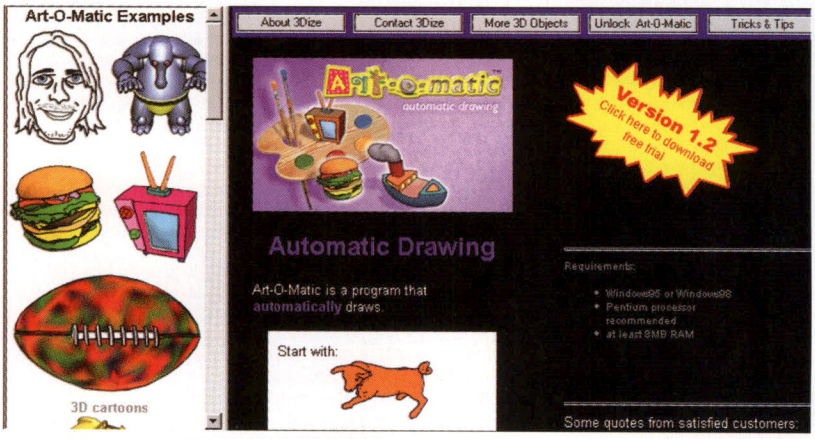
Fireworks
Macromedia's march on the Internet creative market continues. Fireworks is an imaging tool all Web developers will want. It works across the boundaries of bitmap and vector images and throws in a dash of JavaScript. You can import and optimise all manner of images and create the smallest, best-looking files within a single application. This is an early beta, so expect a few bugs, but time and effort spent dealing with them will be richly rewarded. The full version isn't due until June.
Price Not set as yet
Platforms Mac, Windows 95/NT
Download size 7Mb
URL www.getfireworks.com

Agile HTML editor
The new version of this HTML editor supports HTML version 4 and the latest browsers. It can also handle Dynamic HTML, including style sheets. You can switch between HTML standards if you don't want to work to v4.



Price Full version £50
Platforms Windows 95/NT
Download size 2Mb
URL www.compware.demon.co.uk/agile/agscreen.htm

Paint Shop Pro 5.0 beta 2.5
Another surefire hit. Most PCs come with Paint Shop Pro already installed, but this new version boasts a host of new features. Complete layer support and CMYK separations plus support for pressure sensitive drawing pads have been added, and all the original features enhanced. Big, but beautiful.

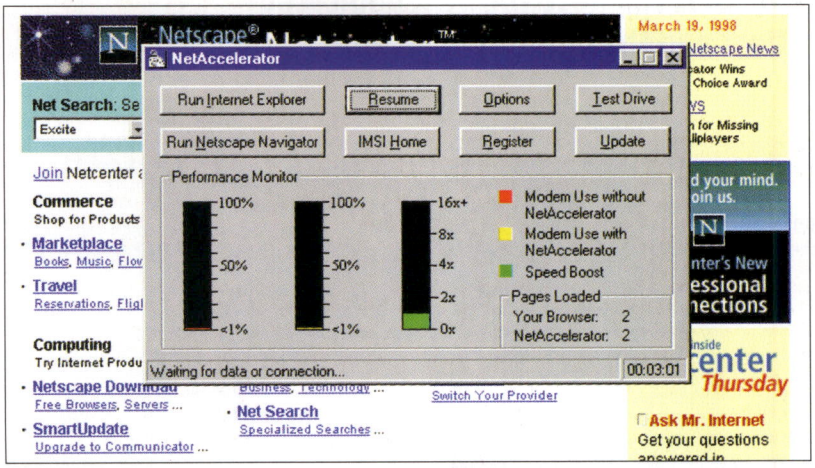


Artistically challenged? Try Art-O-Matic

Art-O-Matic claims to automatically draw cartoons, line drawings, paintings and renderings from 3D models. There are some rave reviews on the home page – "3D drawings in minutes!" cry users ecstatically. It's simple to and use could add spice to your Web pages.
Price $80 (around £47)
Platform Windows 95
Download size 3.3Mb
URL www.3Dize.com

sted

bring you the products that really are worth downloading. shouldn't be without



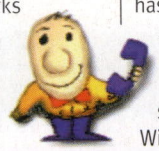
Net Accelerator – speed up your browsing

Any product that can save money on your phone bills by speeding up browsing has to be worth trying out. Net Accelerator sits in the background as you browse the Web and checks out links and related graphics in anticipation of your visiting those sections of the site. Browsing speeds can be doubled, so it's definitely worth trying out the free 30-day version.
Price Full version $29.95 (around £17)
Platform Windows 95
Download size 3.3Mb
URL www.imsisoft.com/netaccelerator/index.html

Price Registration $99 (around £58)
Platforms Windows 95
Download size 8Mb
URL www.jasc.com/

Internet Phone 3.5

If you're looking for full and half duplex real-time chat over the Net, you'll be hard pressed to find a better tool than this. It keeps an address book, calls landline phones, and works with PC users.



Price $49.95 (around £23)
Platform Mac
Download size 1.7Mb
URL www.vocaltec.com/mac/web/mac_dnld.htm

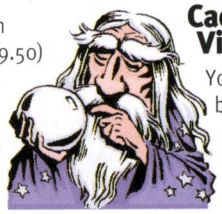
WebCam Sam

Sam trawls WebCams worldwide and lets you view them in your browser. Just click on the name of the city you're interested in.

Price Registration $15.95 (around £9.50)
Platforms Windows 95/NT
Download size 2.7Mb
URL www.vista-x.com/webcams.htm

Submission Wizard v4

One of our favourite apps has been updated. Get your site listed in lots of search engines. Just feed information about your site into Submission Wizard and let it take care of sending the appropriate material off. The full version send details to over 650.
Price One month $30 (around £17)
Platforms Windows 3.x/95
Download size 3.8Mb
URL www.submissions.com/form.html



Cache Viewer

You know your browser stores heaps of files in a cache? Well, using CacheViewer you can browse through them offline. From there you can file away the contents of your cache in an orderly fashion. It's a good way to make sure your hard disk isn't clogged up with unecessary files.
Price $29.95 to register (around £20)
Platforms Windows 3.x/95
Download size 2Mb
URL www.ecw.co.uk/engweb.htm

ON THE CD You'll find most of these hot downloads are included on on our free cover CD

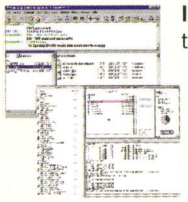
In Tried & Tested

Internet Magazine **is committed to bringing you the best and most authoritative reviews in the Internet industry. Every month we test and rate the most important new Internet products. If you're making a buying decision or doing a bit of pre-purchase research, the following pages are not to be missed.**

In Tried & Tested you'll find the latest news on just-announced products, hard-hitting reviews of key product releases and comprehensive Labs tests.

On our Web site at www.internet-magazine.com/reviews/welcome.html you'll find a database of all the reviews from the last year.

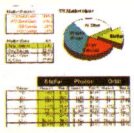
Key reviews for May



If you've got files to move around the Internet, you'll need a file transfer program. And you'll want the best one you can get. Steve Patient and the *Internet Magazine* labs team put FTP clients through their paces. Check out Fetch for the Mac and Internet Neighbourhood or CuteFTP for the PC.
See page 88

Security is always high on the list of Net priorities, and Internet Scanner can help network managers enforce it. Running under NT4 or Unix, the package probes for potential problems and tells you which of the problems you should fix first.
See page 100

The new industry standard for Web production? We review the preview version of Drumbeat, a Web publishing tool that, uniquely, offers true cross-platform independence.
See page 104



Net-It Central offers a simple way to get documents onto an intranet. Even those not technically minded can get to grips with this.
See page 97

Plus the email-to-pager interface we've all been waiting for, the latest HTML editor to join the crowd, a doctor to diagnose your Net connection problems, and the cheapest PC video camera out there...

Star Ratings

★★★★★	Must buy
★★★★☆	Should buy
★★★☆☆	Could buy
★★☆☆☆	Poor buy
★☆☆☆☆	Don't buy

Moving files around the Net

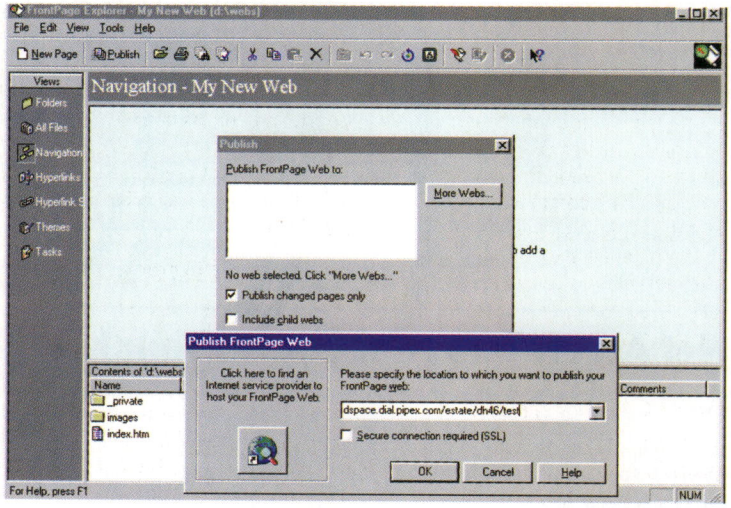
When you have files to move around on the Net, you need the best dedicated file transfer program possible. Steve Patient and the *Internet Magazine* Labs team check out FTP clients

Strangely enough, the first incarnation of the Internet was designed specifically to allow military researchers to move files around. This makes the file transfer protocol (FTP) one of the oldest protocols on the Net. Surprisingly, it's still one of the most useful. A good FTP program will make it as easy as possible for you to move a file from one Net location to another. This sounds trivially simple, but in practice there's a lot an FTP program can do to make it easier for you.

First, though, some background. Most of us have downloaded files using a browser, and at this point you often see a URL that contains **ftp://**. It's true, Web browsers do support FTP. However, what they offer is a very simple level of FTP support. For a start, most can only download files from a site, not upload them. But let's be honest about this – if you only want to download the occasional file, it's not worth the effort of installing, learning and using a dedicated FTP client.

Downing a load

It's the massive growth in free Web space that's done the most to encourage the use of FTP clients. There is another reason for using a dedicated FTP client, though: huge downloads. It's an unusual Net user who doesn't routinely run beta software, downloading updates on a regular basis. Most of these downloads run to megabytes, and if you hit a problem downloading them with your Web browser, there's nothing to do but start all over again. Good FTP clients have resume features that allow you to log back on, find the file again and start downloading where you left off. In these days of browser programs that are over 10Mb (when compressed) and with new versions of popular programs being released almost daily, this feature alone could save a lot of money on your phone bill.



Professional quality Web authoring programs, such as Microsoft's FrontPage, hold your hand from creation to publication, but you might still need a dedicated FTP client

Similarly, popular FTP sites can be slow — too slow for Web browsers, which often give up. FTP clients can be told to keep trying to download until either you get old and die or it manages to pull down the file you want. OK, on dial-up this is best reserved for a weekend, but for those with permanent Net connections it's a wonderful feature – just leave it struggling away in the background and get on with something else.

The general increase in Net savvy, combined with most people's more active involvement in the Web, has led to a resurgence of interest in FTP clients. There are now a number of excellent products, and almost all of them have shareware or trial versions.

How FTP clients work

For years, FTP clients have come with lists of FTP archives built in, though naturally you can add your own – such as your own Web site. In general, most FTP sites use an anonymous log-in, which means you don't need a user ID and password. They default to 'Anonymous' as the name and usually take your email address as a password – though any email address will do. Most FTP clients also support password-protected FTP sites (which is what your Web site really is), and this will give you access to your company's FTP space or the Web space your ISP supplies as part of its dial-up access deal.

A friendlier face

The big change over the past few years, though, has been easier

FTP clients compared

Program	Supplier	Price	Platform	Resume	Uses indexes	Multifile transfer	Drag and drop
FTP Browser 2	Terrapin	£19.95	Windows 95, NT	✔	✔	✔	✔
WS_FTP	Ipswitch	£22.00	Windows 3.1, 95, NT	✔	✔	✔	✔
CuteFTP	Globalscape	£20.00	Windows 3.1, 95, NT	✔	✔	✔	✔
FTP Voyager	Rhino Software	£17.50	Windows 95, NT 4	✔	✔	✔	✔
Internet Neighbourhood	KnoWare	£15.50	Windows 95	✔	✔	✔	✔
Fetch	Dartmouth College	£14.50	Mac	✘	✔	✔	✔
Anarchie	Stairways	£6	Mac	✘	✔	✔	✔

interfaces. The best of the clients have an Explorer-style interface, complete with directory trees for local and remote hosts. They will even automatically download the text files associated with most FTP sites and use them to provide information about the server and the files it has available.

You can now move files between your computer and a remote site simply by dragging and dropping them, and a few FTP clients can also move files between remote sites. Most clients will also let you move whole folder hierarchies in one go. You'll find that having filters that specify which files should go and which should stay is a useful extra. The sophistication of these filters varies depending on the program, but some will even check the dates on files. This means that the program won't bother uploading files that haven't changed since you last uploaded to the site. Some programs also let you write macros, so that you can automate the process of uploading or downloading files.

Do you really need one?

If your only interest in FTP is to maintain your Web site, you don't need an FTP client, even though many people choose to use one for the extra control. Web-authoring programs such as FrontPage98 and SiteMill are perfectly capable of handling your FTP requirements and, at least in the case of FrontPage98, won't ever mention FTP at all.

Instead, FrontPage98 deals in publishing. You select Publish from the File menu, enter the name of the server where your Web space is located, the path on the server to your file area, and hit OK. You're then asked for your user name and password – the ones you use to log on and access your email and your Web space – and FrontPage98 uploads your entire site or whichever part of it you specify.

In the US, where free local call rates encourage dial-up users to work online, you can work directly on the remote Web server. This has advantages if you're using CGI scripts, for example – you can try them out as you build them.

The downside is that you still need a dedicated FTP client to make the most of other FTP sites, such as file archives. Faced with the problems involved in getting your head round local and remote server addresses and other Net jargon, some of us find it easier to stick to standard FTP clients.

FTP, along with file management, faxing and the ability to play multimedia files, is destined to disappear into the operating system any minute now – check out IE4 and Communicator 4.But there's still a place for a perfectly formed FTP client.

Winners and losers

For the Mac, there's little to choose between the two tested, but we prefer Fetch.

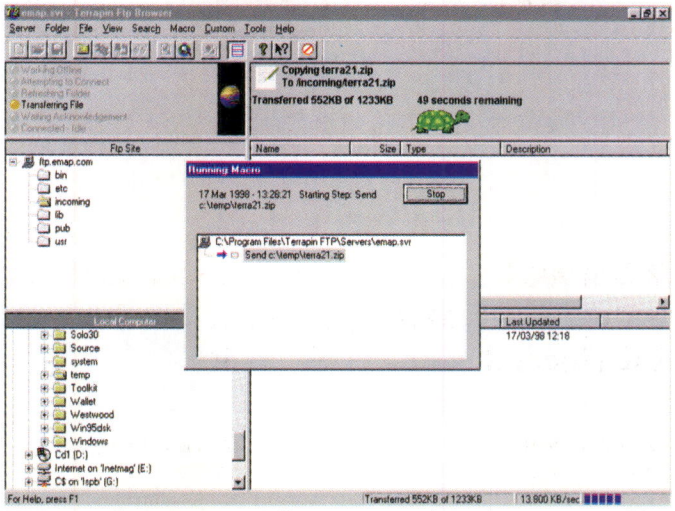
On the PC, the story is more complex. There are many more FTP clients with complete feature sets but different interfaces. The whole thing eventually comes down to a question of taste. For example, if you want Explorer integration, use Internet Neighbourhood. But we prefer standalone utilities (at least you know what's broken). And on the standalone front, it's hard to beat CuteFTP.

ON THE CD

On our cover CD you'll find a selection of trial versions of the FTP client software tested here

View files	Edit remote files	Best 100K upload	Best 100K download
✔	✘	25 seconds	24 seconds
✔	✔	27 seconds	24 seconds
✔	✔	23 seconds	25 seconds
✔	✔	27 seconds	26 seconds
✔	✘	26 seconds	25 seconds
✔	✘	20 seconds	25 seconds
✔	✘	21 seconds	23 seconds

TERRAPIN



FTP Browser shows you a server's directory structure before it connects you – this saves on time spent online

FTP Browser 2

A good all-round program with some neat features, and it's made in the UK!

The user interface for Terrapin FTP Browser 2 is pretty much the same as you'll see on the other programs in this Labs test. Its bottom two windows are for the local computer (one for the directory tree and the other for the files and details), and the middle two for the FTP server. The top right window shows any messages from the server, and the left window the current status of the connection.

Sending and receiving files is simply a matter of moving them from one window to the other, while double-clicking on a file kicks off the appropriate program – FTP Browser uses Windows' file associations to decide which program is right for which file type. There's also a built-in text file viewer, but this can be disabled if you want to use a word processor as the default.

The way FTP Browser 2 works can be rather confusing to begin with – it doesn't automatically connect to the FTP server when you select it. Instead, it works from an index of files and folders, which was built the last time you connected. This means you don't have to spend valuable online time navigating through the directory structure – you can just go straight to the directory and then connect. Although this could be a problem if the directory structure has changed since the index was built, it can be set to expire after a user-defined period, and is automatically updated when you access the FTP site.

You also get a macro facility, which can record a series of actions. While this is fine (and very useful) as far as it goes, it really could do better. You can't do batch processing, for instance – and it would be handy to set up a macro to automatically upload a selected set of files to a Web site. As it is, unless you're always sending the same files to the same FTP sites, you'll have to write a new macro for each file.

But there are plenty of worthwhile features, such as automatic retries of failed downloads, a built-in Archie client (a search system for finding programs on FTP servers) and the ability to build custom commands if the server supports non-standard FTP commands.

Fundamentally, FTP Browser 2 does what it's designed to do – it makes the business of moving files to and fro on the Internet easier.

★★★☆☆

Terrapin FTP Browser 2
Price *£19.95*
Pros *Flexible, powerful and easy to use*
Cons *Interface can be confusing for beginners*
Contact *Terrapin*
URL www.terra-net.com

FREE

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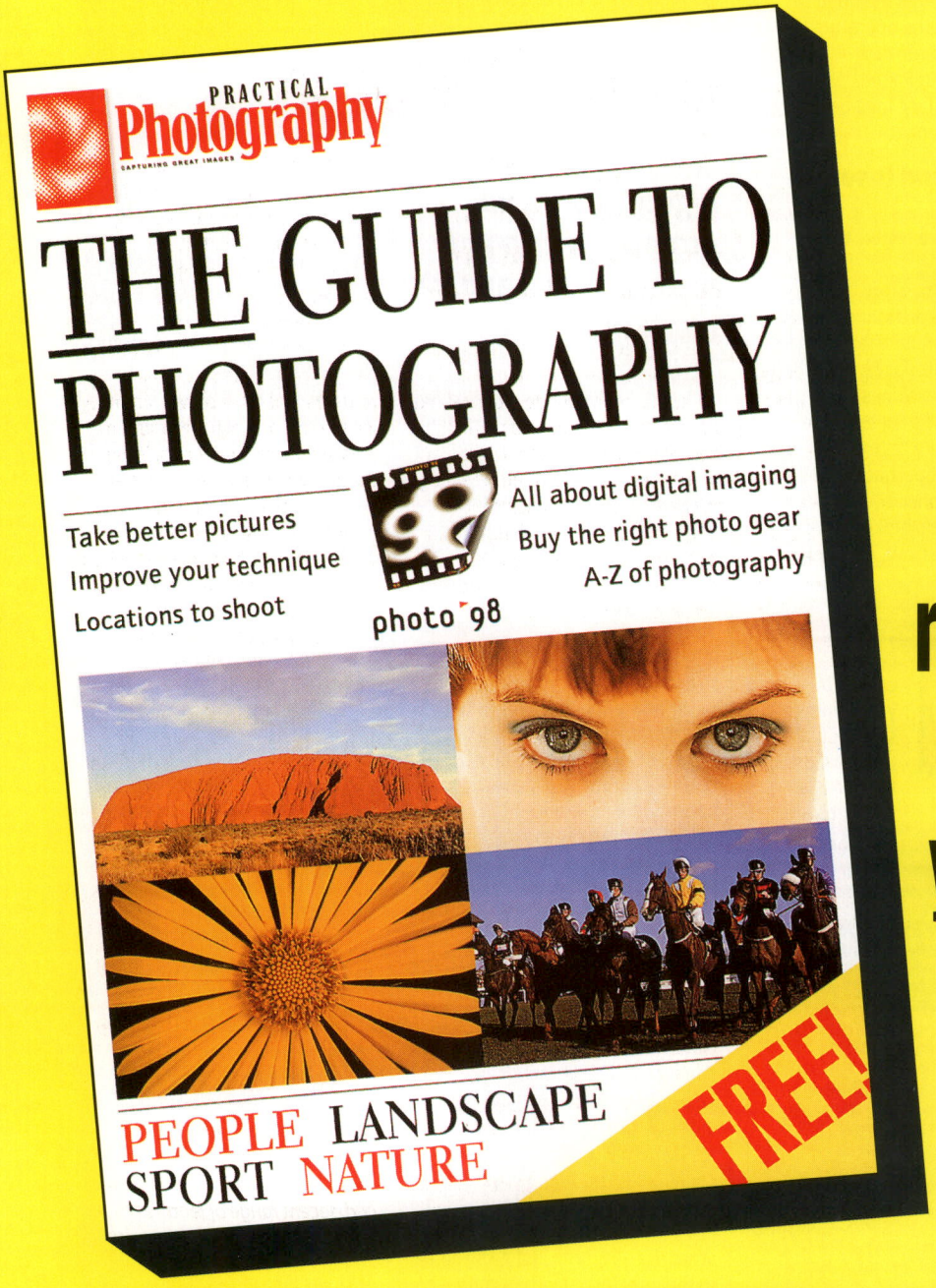

A 100-page paperback book that's bursting with advice and recommendations on how to make your photographs even better.

On sale 9 April

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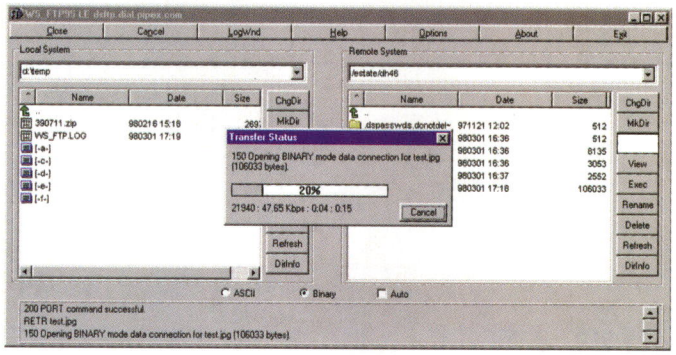
IPSWICH



WS_FTP is tried and trusted, and there's a shareware version – though the Pro package is well worth the modest charge

WS_FTP Pro 4.5

An old favourite (with good reason) and you can get it either cheap or free

It's hard to fault this popular and long-lived FTP client. It's probably the best-known Windows FTP client. Originally written and still maintained by John Junod, it's been around forever. If you're a private user, you don't even need to register the shareware version. However, the registered Pro version is cheap and adds some important features.

Little attempt has been made to make the program's design follow Microsoft's interface recommendations. You won't find drop-down menus or tool tips, for example. But it's easy enough to understand how the program works.

You have two windows, which can be side by side or one above the other. In each window you can move up and down a directory listing, until you find the drive, folder or file you want (there's no tree view, though). To move items around, you select files or folders and drag them from one window to the other (in the registered version) or simply click on one of the two arrow buttons between the windows to transfer files (the only option in the shareware version). Drop-dead simple, and all that most users want. Creating, deleting and renaming files and folders locally and on the remote host is equally straightforward.

There's a multitude of options, all accessible from a standard properties box sporting a fine collection of tabs. Only the Pro tab options are greyed out in the shareware version. These include drop and drag, re-get (resume download), preserve date stamp, prompt for overwrite of newer files and don't transfer older or same files. The last of these is a great time saver when you're updating Web sites. As part of the Pro package you also get versions of Finger, Whois, Ping, Lookup and Trace.

Among its more interesting features, WS_FTP can automatically save host configurations, let you view or execute a file, alter the file types as they're up or downloaded (JPEG to JPG, for example), access paths to previously visited folders, and append to existing files – and it's even year 2000 compliant. There's also the option to issue commands to the remote server, but to do this you'll need to know the kind of commands you can issue to different types of FTP server.

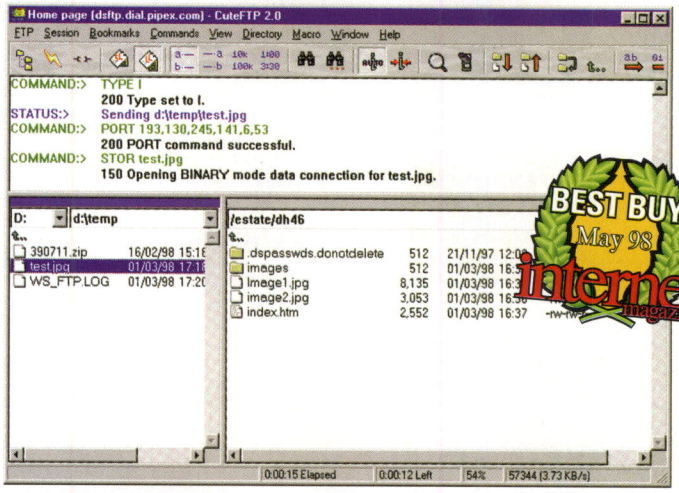
Not much to complain about, then? Well, there's no auto-retry option, and if WS_FTP loses the connection it gives up. Of course, some may see this as sensible, but it would have been neat to have the option to keep trying.

We like WS_FTP. It's simple, robust and reliable. File transfer times are comparable with the other programs tested and we like the way the remote directory window is automatically updated so you can see what's happening.

★★★★☆

Ipswitch WS_FTP Pro 4.5
Price *$37.50 (around £22)*
Pros *It's free for private use and it has a wide set of features*
Cons *No auto retry*
Contact *Ipswitch*
URL www.ipswitch.com

GLOBALSCAPE



CuteFTP proved the best of the bunch for Windows 95, with a great interface and easily accessible features

CuteFTP 2.0

Power users with Windows 95 will have to go far to beat this feature-packed client

This is easily the best of the current crop of Windows FTP clients – and the author is so confident of this that you get the fully featured product free for 30 days. Once that's up, you have to register to continue to enjoy the Resume feature, automatic file renaming and bookmarking of your favourite directories (though Resume, for one, seemed to work in our shareware version).

CuteFTP has a solidly Windows 95 look to it, complete with tool tips, toolbar, menus, and drop-down lists for drive and site selection. It has three windows: the local site, the remote site and a status window, which fills up with messages as your files are transferred. You can access firewall settings if you need them (a feature intended for use on intranets with Net access).

There's a separate floating window called Site Manager, which acts as an address book. The pre-installed list of sites is useful but short. Bookmarking is neat, as it's usually a specific directory you want to go to rather than just the front door of a site. The QuickConnect feature also remembers the last five sites you visited.

Other advanced features include directory comparisons, directory tree upload and download, a Keep Alive command for unreliable sites, remote file editing (terrific, but don't forget to set the associated applications as, oddly, it doesn't pick them up from the Registry).

One unusual feature is command line scripting. Although you can run WS_FTP, for example, from a command line with parameters, CuteFTP can handle fairly complex site maintenance routines. Yet more power features include the ability to see hidden files in remote directories, issue commands to remote servers and even change file attributes.

CuteFTP still has a few problems, which the excellent help files freely admit. The most serious is a repeat-ing page fault (definitely a bad thing), and the only cure is to reinstall both Windows and CuteFTP. We didn't experience this or any other problems during the tests, though.

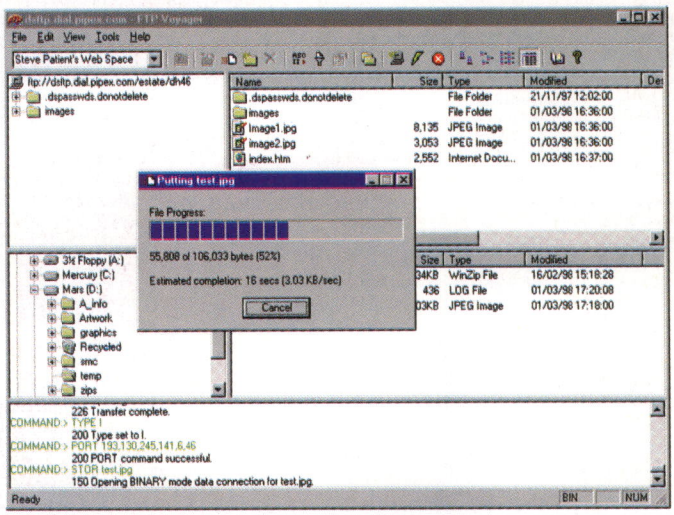
CuteFTP is generally fast – you won't sit around waiting for things to happen. Oddly, though, it tied with WS_FTP for lowest download speed, probably due to the unpredictability of phone lines and of the Net itself.

Overall, CuteFTP has to be our top recommendation for Windows 95 users. The standard interface, ease of use and accessible power features make it a winner.

★★★★★

Globalscape CuteFTP
Price *$34.50 (around £20)*
Pros *Good interface, easy to use and decent range of features*
Cons *Serious bugs for some users*
Contact *Globalscape*
URL www.globalscape.net/Cuteftp/

RHINO SOFTWARE



The elegantly presented FTP Voyager will appeal to Windows 95 users, and what's more it has some impressive extra features

FTP Voyager

An easy to use option for Windows 95, with a smart interface and great features

FTP Voyager was separated at birth from Windows Explorer. You get drop-down menus, a customisable toolbar (a feature also found in CuteFTP), and five windows, which you read horizontally. These show a hierarchical tree view of the directory structure and the files in the currently selected directory for the remote and the local machines; the last window is for status messages. There's a drop-down list of FTP sites on the toolbar, but for the full list – which runs to hundreds – you have to load up the FTP Site Profile Manager.

The feature list of FTP Voyager just goes on and on: file renames, resume (and you can set the number of automatic retries), issue commands to servers, maintain file date stamps... FTP Voyager can upload and download complete directory trees, letting you include and exclude specific file types from up and downloads – a great time and money saver.

We did have a few problems. The Resume feature occasionally failed with Winsock errors, and drag and drop don't work except within the program windows (an acknowledged bug). And we found that updating the file information in a local folder was mind-numbingly slow.

One of the cleverest features for Web site maintenance – it'll save you learning how to do it in your Web authoring package – is Synchronise Folders. You can have FTP Voyager update a local folder to match a remote one or vice versa (complete with sub-folders). Larger, smaller and older files are uploaded from one machine and deleted from the other (so, for instance, if you've deleted a file locally, the same file will automatically be deleted at the other end). Grrreeaat!

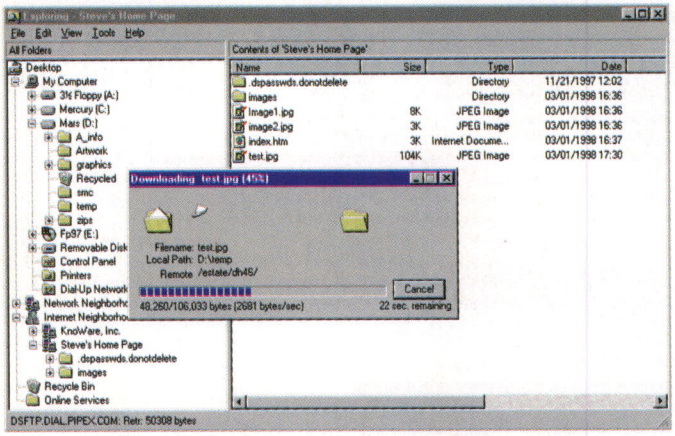
Basic file transfers are simple, and even the advanced features are easy to access and well explained in the help file. This isn't true of all FTP clients, which often expect you to know exactly what the CHMOD command in Unix does and how to use it. Right.

So why do we prefer CuteFTP for Windows systems? Partly because CuteFTP works on a wider variety of platforms and partly because it's faster – only for display, though, not file transfer. However, new Windows users may well find the FTP Voyager interface easier to learn.

★★★★☆

Rhino Software FTP Voyager
Price *$29.95 (around £17.50)*
Pros *Windows Explorer-style interface, folder synchronisation, all features work in the shareware version*
Cons *Slow to update folder contents, unreliable, no Windows 3.1 version*
Contact *Rhino Software*
URL www.rhinosoft.com

KNOWARE



Internet Neighbourhood integrates into Windows Explorer, adding folders representing FTP sites to the directory view

Internet Neighbourhood

Full integration with Explorer, but nothing special in the feature list

Internet Neighbourhood takes the obvious next step on from FTP Voyager. It integrates into Windows Explorer, adding extra folders in the tree view to represent FTP sites. There was a time when it was considered smart to add almost every utility onto Windows Explorer. And this is how many of us ended up with a Windows Explorer so complex and fragile that it became unusable. Which explains our lack of excitement when faced with Internet Neighbourhood.

You can start several instances of Internet Neighbourhood to view the contents of more than one folder at a time – a remote one and a local one, perhaps. As this is a feature supported at least in part by IE4, it's even less exciting than it would have been a year ago, though admittedly IE4 doesn't have the more advanced features of Internet Neighbourhood.

As you'd expect, Internet Neighbourhood supports moving files or whole folders using drag and drop. You can view and edit remote files, resume downloads, change file names on transfer, issue server commands, cope with firewalls, preserve the case of file names or force them to upper or lower case (though all the FTP clients support this feature now) and much more besides. Oh, OK, it preserves file datestamps, caches site file listings (for offline browsing), retries (you have to set the number of times to retry), tells you the total size of the files in remote directories and shows you hidden files.

Somehow, though, hiding the features of Internet Neighbourhood away in Windows Explorer seems to make it less compelling – its Properties, for example, are only accessible from the Desktop icon. Moving further down, the shareware version is unusable – it won't upload files, which as an FTP client makes it not much more useful than your browser. Our feeling is, if you can try excellent fully functioning FTP clients before buying them, why would you choose to buy this one before trying it? Oh yes, and you can't delete or rename files either, unless you register your version.

★★★☆☆

KnoWare Internet Neighbourhood
Price *$26.50 (around £15.50)*
Pros *Integrates with Windows Explorer, full features*
Cons *Integrates with Windows Explorer, crippled shareware version*
Contact *KnoWare*
URL www.knowareinc.com

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ISP OF THE YEAR 97 internet magazine

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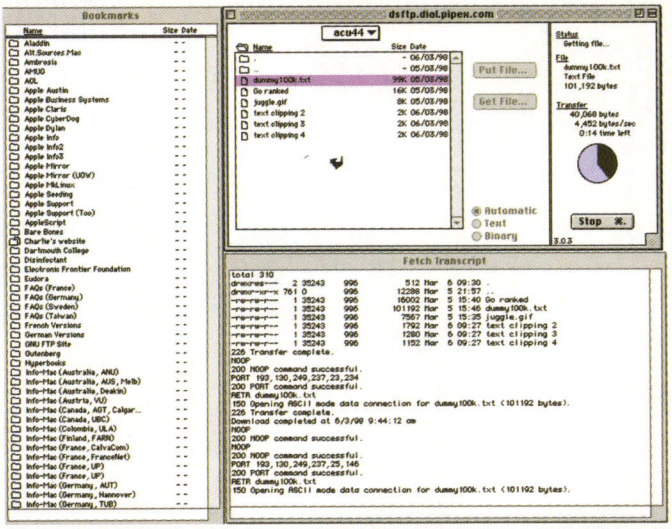


The top right window is the file selector. Below it, the optional Transcript window lets you keep tabs on what's happening. Can you spot the running dog? Fetch, boy, fetch!

Fetch

It's a Mac classic, but with a couple of features below par, is it up to the challenge?

Fetch is the classic Macintosh FTP client. While it's not as feature-laden as Anarchie (its only real competitor), it's easier to use. You get the feeling that it's you, rather than your software, that's in control.

A comprehensive bookmark list gives you instant access to the most important Mac-related FTP sites, and you can add your own. These can include a user name and password, so setting up Fetch to automatically connect to your Web server is easy. You can convert any directory listing into a bookmark, which effectively caches the remote site for easier access next time.

You make a connection by double-clicking a bookmark or typing in a server address. The remote directory listing appears in a file selector window that behaves much as the standard Mac Open and Save.

The file selector is resizable – essential for viewing long file names – and supports drag and drop. Uploading multiple files and folders is easy: just select the items you want in the Finder and drag them into the Fetch directory listing. Multiple downloads are awkward, though, because you can only make a multiple selection of consecutive items in the directory listing. This limitation really should be fixed.

Fetch's Anarchie Emulation Mode lets you work with multiple Finder-style windows instead of the file selector, but it's a feeble feature that you'll probably keep turned off.

Fetch lacks decent search facilities, although it does support the Site Index command. Testing this on a number of FTP servers produced no useful results – it didn't even work on the Dartmouth College FTP site, the home of Fetch. Scripting Fetch is a doddle, though, and it arrives with a useful selection of sample scripts.

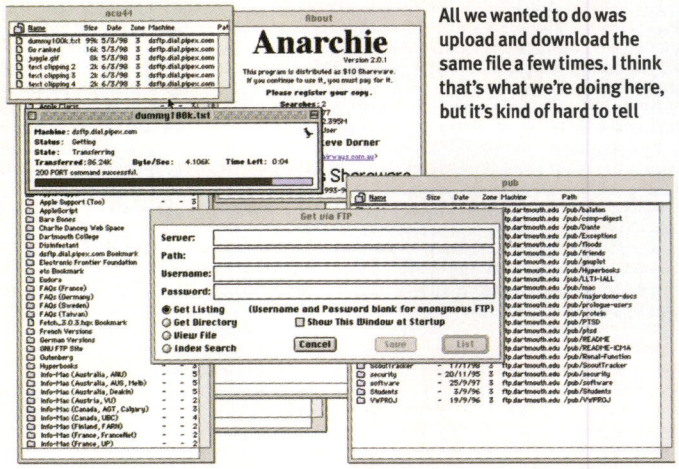
Session transcripts, direct low-level FTP commands and the ability to change remote file permissions are all supported. Fetch also recognises and decodes most popular Mac archive formats, including Stuffit, Binhex, Macbinary and AppleSingle. The View File function can display remote files as text – not always appropriate, but useful.

Fetch claims to be able to talk to a wide range of servers, and it reported fewer client/server communication problems than Anarchie did.

★★★★☆

Dartmouth College Fetch
Price *$25 (around £14.50)*
Pros *Reliability, simple interface, excellent help files, comprehensive bookmarks*
Cons *Poor drag and drop implementation, lack of search facilities*
Contact *Dartmouth College*
URL ftp://ftp.dartmouth.edu/pub/software/mac/Fetch_3.0.3.hqx

STAIRWAYS



All we wanted to do was upload and download the same file a few times. I think that's what we're doing here, but it's kind of hard to tell

Anarchie

A pretty face, but it's what's under the skin of this Mac client that matters

Anarchie is cheaper than Fetch, and looks prettier, but appearances can be deceptive. Anarchie opens an Internet connection immediately on start-up, and there's no way to stop it. This means you're paying while you learn to use it. Apparently, it does this to work out where your machine is, and to 'zone' your bookmarks. But the Mac knows where it is – that's why it's got a Map Control Panel.

Anarchie opens three windows: an About box saying you're a beginner and please send off your shareware fee, a Tips window explaining how to pronounce Anarchie and offering a sound bite, and a Bookmarks window, which is actually useful. Bookmarks are presented as a list of folders. To navigate FTP sites, you simply double-click on folder icons. Each time you do this, a new window opens, together with a progress box – featuring a hopping kangaroo to remind you of Anarchie's Aussie origins. If you're not careful, you'll bury your desktop in windows. Our hot tip is that holding down the Option key while opening a folder closes the parent window, just as it does in the Finder.

Anarchie has better search facilities than Fetch. You can do an Archie search, which is moderately useful, or a Mac Search, which is slightly better, or a site index, which is hopeless. Drag and drop is supported for up and downloads, but Anarchie has the same limitation as Fetch – you can only multiple select consecutive items in a directory.

You can create and edit bookmarks, but Anarchie refuses to save passwords with the Web server details. This means keying in passwords for each operation. The help file says this is a security feature. Great, so a hacker who reaches your Mac can access all the local files but can't touch your Web site.

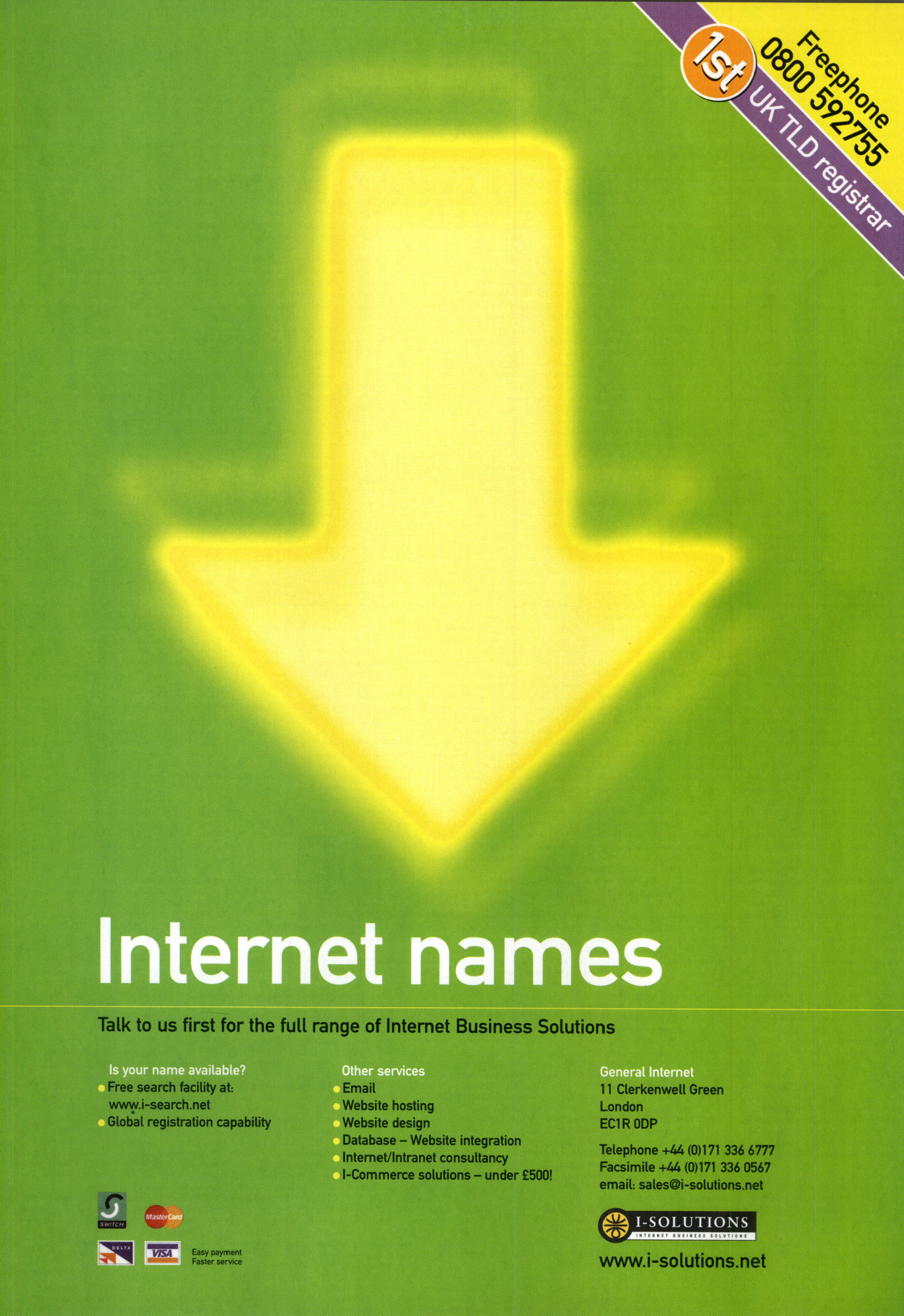
The application is scriptable (but only partially recordable), so you can create Droplets to simplify the process of keeping your Web site up to date. Adding a password to a script is easy. Deleting remote files is weird – the file stays in the directory listing, but with a little red line through it. Why? According to the help files, Anarchie has no way of knowing what's really happening on the server, so it crosses the file out to indicate it probably isn't there any more. Isn't that the whole idea?

Session transcripts and direct FTP commands are supported, and Anarchie can decode MacBInary and BinHex files.

Apart from the search facilities, Anarchie does nothing Fetch can't do better. Still, there's always Fetch Emulation Mode, which turns off the hopping kangaroo. Funny guys.

★★★☆☆

Stairways Anarchie
Price *$10 (around £6)*
Pros *Elegant look, low price, search facilities*
Cons *Too many windows, can't save passwords, connects at launch*
Contact *Stairway*
URL www.stairways.com/stairways/anarchie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WEB PUBLISHING TOOL

Net-It Central 2.0

An easy route to intranet publishing, if you've got the money to spend

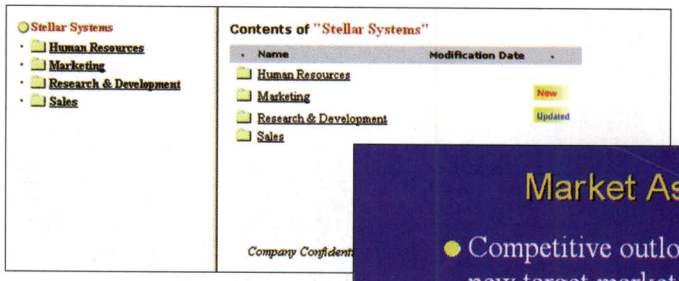
Publishing lots of documents on an intranet or extranet can be a tedious process. Sure, you could use a Web authoring package and simply drag your Word or Excel documents onto a Web page, but this is slow, you need some HTML knowledge and there's a limit to the number of file formats supported. Or you could convert the source files into an intermediate format, such as Adobe Acrobat, and then use a Web browser, plus a suitable plug-in, to view the results. The results are good, but the process is slow.

An alternative solution is Net-It Central 2.0 (NIC) which, although pricey (the 100-document version costs £1,495 and the unlimited document version £3,495), offers a simple way for non-technical folk to contribute documents to an intranet.

NIC automatically converts documents created with Windows applications into Java applets. It then creates a Web site to display those documents, which you can see in any Java-capable Web browser. The technology underlying this is the Java-based jDoc, which represents documents as text and a set of graphics primitives rendered on the fly.

When your users want to read a document that's been published on an intranet, all they need do is point their browser at the Web server holding the published documents. The jDoc viewer is automatically downloaded just once per session. Thankfully, it's a smallish 34Kb. A dedicated jDoc toolbar above each document lets you navigate from page to page, zoom in or out and copy text to the clipboard. And if you want a copy of the original document file, you can download it, if permission has been granted.

Installation takes no more than five minutes. Once it's complete, you create a directory on your Web server where the jDoc documents sit, and name your collection of documents. You then set up one or more folders on the network where users can plop the files they want to be published.
Net-It Central will pick up these files and convert them.



Net-It Central copes with PowerPoint effects such as dissolves and wipes

Converting documents is an equally simple process. Like Acrobat, NIC uses a special printer driver to convert documents to the jDoc format. At the point of conversion, the application that created the document is loaded in the background, and the documents are individually loaded and then printed to the Web server. Unfortunately this means you need the application that you created the document in or an advanced document viewer, such as Inso QuickView Plus, on the server, before you can convert anything.

Converting a lot of documents can take a while but, thankfully, you can schedule conversions for quiet times. You can also schedule NIC to update its list of documents at regular intervals. New documents are flagged with a flash. This version of Net-It Central supports Channel Definition Format/Netcaster push technology, which lets users subscribe to a particular document – a price list, for example. Users are then notified when that document has been updated – useful.

The accuracy of the conversion is good, and more than adequate for corporate use. However, it doesn't match the PostScript precision of Acrobat, largely because of the limitations of Java and its typeface support. Interestingly, thanks to OLE automation, you can add animated features such as wipes and dissolves in a PowerPoint presentation.

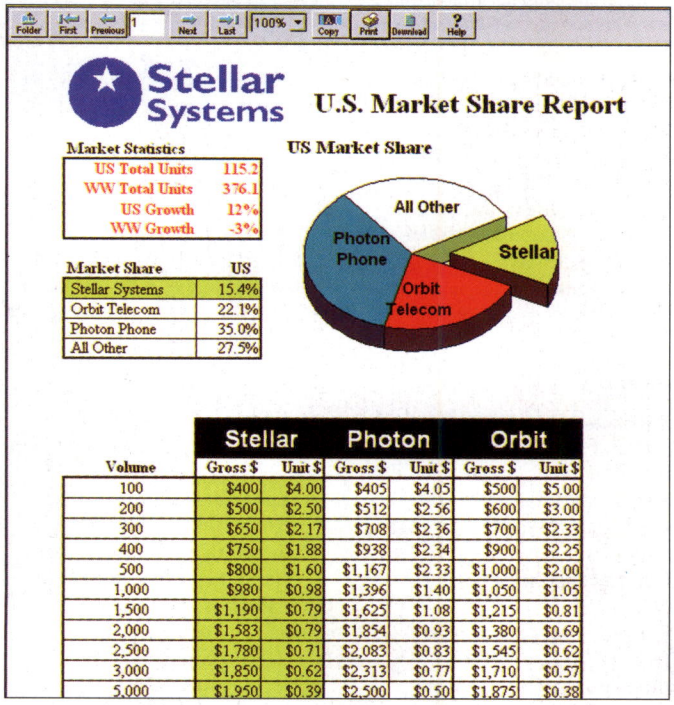
It's simple enough to apply a standard corporate look to each published document, incorporating a header or logo, say – you can specify a Web template during the document creation process. You get a handful of basic templates, but these are merely tasters and you'll have to indulge in a spot of HTML coding if you want to create your own custom template.

Net-It Central can integrate with a number of search engines, an important consideration when the list of available documents gets into the hundreds. However, most search engines can't read the binary jDoc files that NIC produces, so a duplicate of each document is generated in plain HTML.

So far, so good. However, NIC does have its drawbacks. There's no version control or any kind of selective access control, and no user annotation facility. Finally, although Java implies platform independence, NIC is still currently very Windows-oriented. What's more NIC is expensive, certainly in comparison with Xerox DocuShare, for example, but its simplicity goes some way to compensate. For those with thousands of documents that need to be shared it's a cost-effective solution. Give it a try with the 30-day evaluation version on the Net-It Web site.

Roger Gann

★★★★☆



Net-It-Central adds its own Java-based navigation bar to documents

Net-It Central 2.0

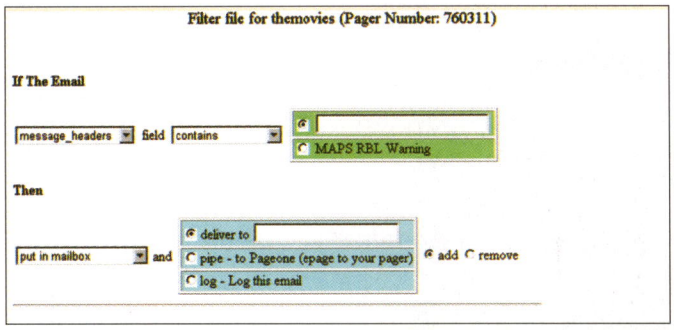
Price *From £1,495 for Starter Edition (100 documents), £3,495 (unlimited documents)*
Pros *Simple to set up, browser-based, Java-based*
Cons *No version control or security per se*
Contact *Blue Ice Intranet Technology*
Phone *(01242) 227 188*
URL www.net-it.com

EMAIL/PAGER

e-page

A new email to pager interface. The small, easy answer you've been waiting for?

Although there have been some great improvements in the technology used to send and receive email on the move, nobody has yet come up with a device for receiving email that's as small and easy to use as a pager. However, a new service from the pager company PageOne goes some way towards this. It allows email to be automatically transmitted to your pager. The service is called e-page.



The e-page system works through filters that run on your mail server – you can make any changes through a Web page

The system is simple. A program runs on your ISP's mail server and scans emails as they come in. If the emails contain a key word or phrase, it passes them on to the pager company, which transmits them to your pager. You can change the words that cause a message to be forwarded via a Web site, and specify whether you want messages deleted once they've been sent to the pager.

The system is being used by a number of ISPs. We tested the service from the Warrington-based ISP, U-Net. E-page runs as part of its mail filtering service. The choice of filters is comprehensive – email can, for example, be filtered by sender, destination or subject. U-Net has also recently introduced unlimited email aliases, so you could set up a new address (such as **pager@themovies.u-net.com**) and have all the email to that address sent on to your pager.

Of course, there are limitations. The pager message only gives the email address of the sender and 30 letters of the subject line – anything else gets chopped off. There are two levels of service – standard (which allows up to five pager messages a day) and premium (which allows up to 10). If you get any more than this, the service holds the pager message in a queue for delivery the next day. Of course, you'll also ne a pager, and an account with PageOne.

Messages are certainly delivered quickly – it usually took no more than a few seconds for them to appear on the pager, although speed will always depend on how busy the mail server and pager service are.

It's also worth remembering that there are various systems that let you send pager messages from a PC, such as the DirectCall software PageOne supplies free (at **www.pageone.co.uk**) or Kevin Holley's Assistant software (from **www.parsley.demon.co.uk/**). With a bit of programming, this software could be adapted to do much the same job as the PageOne service. However, you would need a machine to connect to the Internet and download the mail, whereas the PageOne service works automatically, you don't have to connect to the ISP.

Richard Baguley

★★★★☆

e-page

Price *£49.99 per year for standard service, £79.99 for premium service*
Pros *A good way to receive notifications of emails out of the office*
Cons *Expensive, can be replaced by programming*
Contact *PageOne Communications or U-Net*
Phone *(0500) 505 505 or (01925) 484 444*
URL **www.pageone.co.uk** *or* **www.u-net.net**

PC VIDEO CAMERA

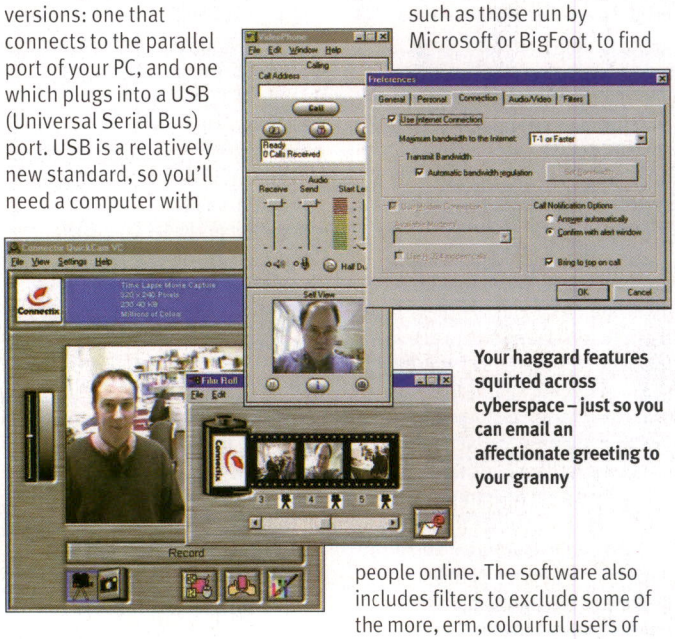
QuickCam VC

An idiot-proof PC video camera that's the first to break the £100 price barrier

The price of video cameras that hook up to PCs is in free fall. With this product, Connectix breaks that all-important £100 price point.

Physically, the QuickCam VC looks much the same as other Connectix cameras – a golfball-sized sphere on the end of a cable. Connectix claims that, internally, the camera is much simpler than previous models, which helps keep costs down.

The QuickCam VC comes in two versions: one that connects to the parallel port of your PC, and one which plugs into a USB (Universal Serial Bus) port. USB is a relatively new standard, so you'll need a computer with support for USB and the latest version of Windows 95 or NT to use it. USB is a good thing, by the way. It's much easier to connect than the parallel port version, because one cable handles both the power going to the camera and the data coming from it.



Your haggard features squirted across cyberspace – just so you can email an affectionate greeting to your granny

Unfortunately, when it comes to connections, the new model has one annoying feature – the cable feeds into the top half of the camera unit and has a nasty habit of dragging it down from the angle you've set it at. You'll have to tape down the cable to keep it in place .

The software that comes with the camera is certainly easy to use – emailing a video is simplicity itself. Once you've filmed your video, the QuickCam creates a standalone executable program that plays the video and attaches it to an email message, ready for sending (assuming you're using an MAPI email program such as Eudora or Outlook). The recipient doesn't need to have special software to watch the video – they just run the program. The QuickCam can also take time lapse images, and you can set the lapse from seconds to several hours.

You get Connectix's own video phone software, snappily called VideoPhone, thrown into the bag. This is H.323 complaint, so you should be able to use it with any video conferencing software that complies with this standard. This also means you can use ILS (Internet Location Servers) systems, such as those run by Microsoft or BigFoot, to find people online. The software also includes filters to exclude some of the more, erm, colourful users of these devices.

Combined, the hardware and software work well. Although an option to send files directly from within the program might have been useful, the software is easy to use and will encourage new users to experiment.

Richard Baguley

★★★★☆

Connectix QuickCam VC

Price *around £112 (inc VAT)*
Platforms *Windows 95, NT. Parallel port and USB versions available*
Pros *Good picture quality, excellent software, good price*
Cons *Some irritating quirks*
Contact *Connectix*
Phone *(00 31 20) 581 4385*
URL **www.connectix.co.uk**

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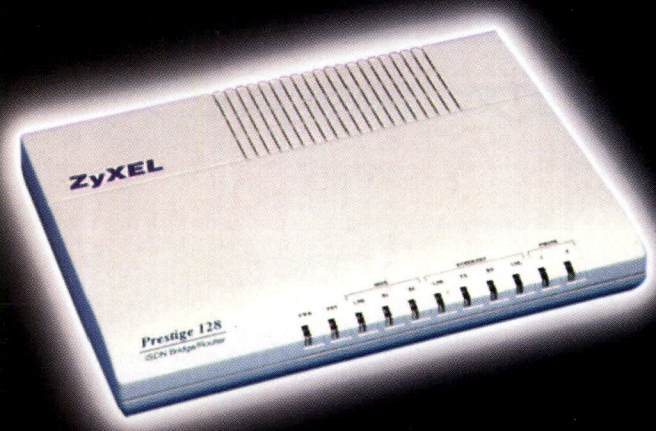

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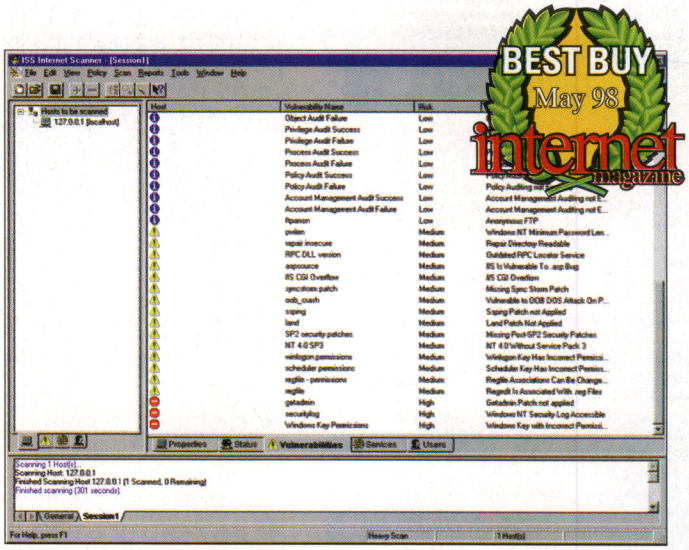
NETWORK SECURITY

Internet Scanner



When you're shown the results of the scan, coloured icons let you see which problems you need to deal with straight away

For harried network managers, a personal assistant to check for security breaches

Enforcing and verifying a security policy is often a full-time job. No matter how hard you work on making sure the potential breaches you know about can't happen, there will always be instances where you've left a hole simply because you didn't know it existed – whether it's a subtle bug in a new release of Sendmail, or one of your users running up a personal Web site on their PC.

ISS's Internet Scanner, now at release 5.0 in its NT form, is a tool for anyone who wants to be sure their network is protected sensibly. Put simply, Internet Scanner probes the devices on your network for potential problems. Of course there are loads of different holes that it might find, but yes, Internet Scanner seems to know about them all.

The package runs under NT4, and a variety of Unixes (the Unix versions are still in release 4.x form). Installation is simply a case of running the installer and doing as it says. It uses certain NT components that might not have been installed automatically, so make sure you have your NT CD to hand – the IS installer asks for it a couple of times. Also, because of the security mechanisms in NT, you have to install a networking component by hand. This is a simple process, involving adding a service through the Network Control Panel, and the installer tells you how to do it.

Once you're up and running, executing the program brings up a three-pane window. A list of devices occupies the top left pane, clicking a device brings up any information held on that unit in the top right pane, and the bottom pane gives you progress and error information.

To scan a network, you create a session. The most important part of the process is choosing the problems you want to probe for, and this is done by working through a Windows wizard. You're provided with three sets of 'default' tests – Light, Medium and Heavy – and you can start with one of these and vary the options to produce your own custom template.

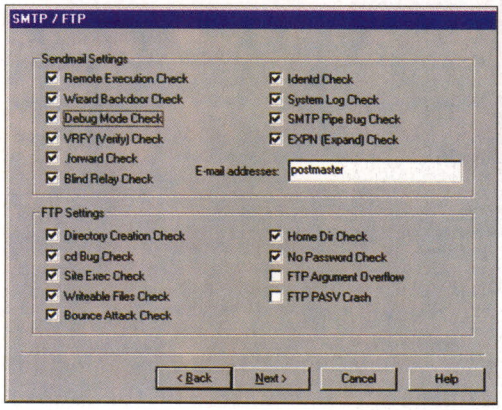
Pretty much every possible problem has been included – there are windows in the Wizard for brute force attacks, denial of service, NFS/X, RPC, Sendmail (of course!), FTP, Web, firewalls, NT-specific problems, IP spoofing, and many more. This sounds scary, but they're split into manageable subsections.

Once the template is defined, you just set the thing going and wait. To give you an idea of how long things take, the 'Heavy' default took five minutes to scan a bog-standard NT server, whereas 'Light' took only 35 seconds – but obviously did a lot less work. Sessions can be save so your results are preserved from run to run. The output of a scan comes appears as a list in the top right pane that clearly shows the low, medium and high risk problems (different coloured icons, and you can sort by risk level), so you can address the most pressing issues first.

Internet Scanner is extremely useful, and is fairly priced if you consider the amount of work it will save you. I thoroughly recommend you try out the evaluation version on ourcover CD.

David Cartwright

★★★★★



Internet Scanner lets you control the tests you run

ON THE CD

On the cover CD, you'll find a trial version of Internet Scanner

Internet Scanner

Price *£1,800 for a 30-device licence, £3,500 for a licence covering a Class C (254-device) network*
Pros *Saves an immense amount of time. Easy to use, despite its power. Makes it obvious which problems you need to fix first*
Cons *I really can't think of any*
Contact *Internet Security Systems*
Phone *(01923) 266 023*
URL www.iss.net

About security scanning

Internet Scanner doesn't cover absolutely every possible security problem in its scans. One of its main omissions, for example, is the ability to do more than a cursory check of how secure your users' passwords are.

The reason is that you have to draw the line somewhere, and checking passwords is quite tedious. For obvious security reasons, today's operating systems don't hold a decrypted version of the password anywhere – nor do they permit even the super-user to decrypt the coded version held on the system. To check whether passwords are insecure therefore requires the system to encode every possible password and check it against the stored versions – a somewhat time-consuming chore.

Not only this, but what's classed as a 'secure' password? In other words, what do you use as a dictionary of 'bad' passwords? You can start with obvious things, such as the English dictionary, but there are always complications – it's perfectly conceivable that a senior member of staff may have her password set to the name of her Spanish fiancé's dog. You find yourself simply trying every conceivable password – which can take forever!

It makes sense, therefore, for Internet Scanner not to worry about the exhaustive checking of passwords – you want it to finish scanning eventually, after all. A better approach is to prevent people from setting 'bad' passwords in the first place. You can find all manner of freeware out there, covering a wide variety of operating systems, which will sit between the user and the password database and complain about silly passwords (it's also standard in many network operating systems to refuse to let a user re-use a password that's been used recently).

Other products

Try to look around for products that'll help you in your quest for security. Systems that force sensible passwords, and programs like Internet Scanner, will cover a whole lot of security holes. Make sure, also, that you have the latest versions of all of your main Internet programs – old versions of Unix's Sendmail are a common source of problems, for example.

One service you might like to try is Netcraft's scanning service. It takes the concept of Internet Scanner one step further, and does the work for you – you pay a subscription fee and the company runs a check on your systems at agreed intervals, reporting on problems found. It's an excellent service, and is kept up to date with details of new potential bugs as they appear. Find out more about the service at www.netcraft.co.uk.

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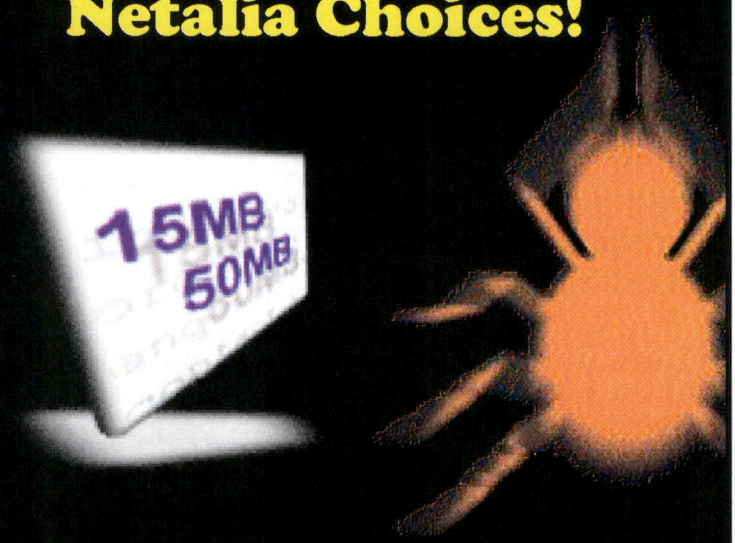

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Cable & Wireless	36	www.cwcom.net
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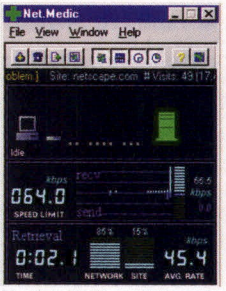
CONNECTION ANALYSIS TOOL

Net.Medic

For the first time, a utility that tells you how and why you've got a slow Net link

We all know that using the Web is typically a patience-trying event. No matter what time we try, there's always some sort of network bottleneck that slows the whole system down. Until now, it was really tricky to track down the problem – is it the computer, the service provider or perhaps the Web site we're accessing. Now, with Net.Medic loaded, it's easy to pinpoint precisely where the hold-ups are. Better still, you might actually be able to do something about it.



The Net.Medic dashboard gives you nitty-gritty connection information

Net.Medic's Net data is gathered while you're logged on to the Web or your intranet, and is displayed in an impressive-looking control panel, consisting of several animated metering panels. Net.Medic is happy with both Navigator and Internet Explorer browsers and can be set to float on top of the desktop, or dock onto your Web browser. The default display consists of a scrolling ticker and three real-time display panes. The ticker displays performance stats related to the site you're connected to, including site name, URL, page size, number of visits, and estimated network and site delays.

Under the ticker is the Network Activity display, which includes graphic representations of your PC, modem, ISP or intranet, routers and the domain that's home to the page you're connecting to. If a component's performance drops, its graphic turns yellow. More serious problems turn it red. Double-click on a problem item and a health log pops up. You can then ask Net.Medic for a diagnosis. If the problem lies at your end, there's an Auto-cure option. If the problem is with your ISP or Web site you can fire off a technical log email to notify the powers that be of the problem.

If you right click on the domain server graphic and select the 'identify' option, you'll get a wealth of information about the site you're connected to, while the Network Activity panel tracks the number of router hops the current connection uses.

Clicking on elements of the Network Activity display fires up advanced dashboard displays. Point and click on the graphic for your PC, and up pops a panel that includes processor and browser cache hit gauges and a green/yellow/red health indicator. This was revealing – I found that the CompuServe dialler hogs 100 per cent of the processor time for no good reason.

The modem's status panel shows the data compression and effective transfer rate, while the ISP pane has a graph indicating ISP delays and estimated congestion. Clicking on the router graphic serves up a real-time graph of delays beyond your ISP, there's an Internet congestion index and the Peak Transfer Speedometer.

But wait, there's more! The Throughput display shows the maximum bandwidth of your modem connection plus bar charts showing send and receive data rates and numeric readouts of the current data transfer rate to and from your PC. The connection data Net.Medic digs up is seemingly endless.

I had a few niggles with Net.Medic – it doesn't work with ISDN cards and the modem panel is labelled 28.8Kbps, even though I used 33.6 and 56Kbps modems. But I quibble – Net.Medic is a useful add-on for the serious Web user. If you don't believe me, check out the trial version on our cover CD.

Roger Gann

★★★★★

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Trial version of Net.Medic

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Homepage 3.0

Strong on databases, but does this HTML editor do enough to keep up?

Claris HomePage is aimed squarely at the small business/home user market, and its strengths and weaknesses both stem from that market position. Claris itself has now been broken up by Apple, and FileMaker Inc has been created to produce database app FileMaker Pro and HomePage.

As you might expect, the new version of HomePage exploits the database connection by having automatic linking (in the form of the FileMaker Connection Assistant) between the two apps built in. This is HomePage's unique selling point, but a good HTML editor needs more than one string to its bow.

HomePage is aimed at the user who might not be familiar with HTML, so the interface is easy to understand. You can start building a page without needing to know any HTML. Better still, there are numerous libraries of content, with QuickTime movies, QuickTime VR movies, clip-art, animated GIFs and even complete style files. So if you find a look that suits your site, all you have to do is drag and drop elements onto the page. The quality of the add-ons is excellent, and HomePage easily matches other HTML editors in this department.

Claris is hoping that once you've built your pages, you'll want to integrate databases into your site – enter FileMaker Pro.

Naturally, to proceed you'll need both apps, and eventually you'll have to organise hosting your database on an external server.

Building up a database is the easy bit, and Claris has done its level best to make tying-in your Web site just as easy, but the leap to database-driven Web authoring is a big one. There just isn't enough guidance for the ambitious beginner. For example, the documentation says you need to access your database on a server, but neglects to mention that you can run both programs on the same machine.

Nevertheless, if you're patient, the FileMaker solution is just about the easiest way to link a database to a Web site.

HomePage's downfall is that it's a poor HTML editor. I imported pages built in other editors and HomePage completely trashed them. When I did the reverse, and took HomePage pages into GoLive's CyberStudio and Macromedia's Dreamweaver, they came up as I'd built them.

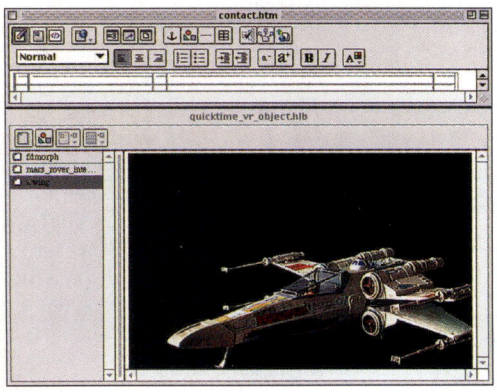
This is a capable WYSIWYG tool with numerous libraries of content and good database integration. However, its poor HTML handling means that even novices will quickly grow out of HomePage.

Mike Hales

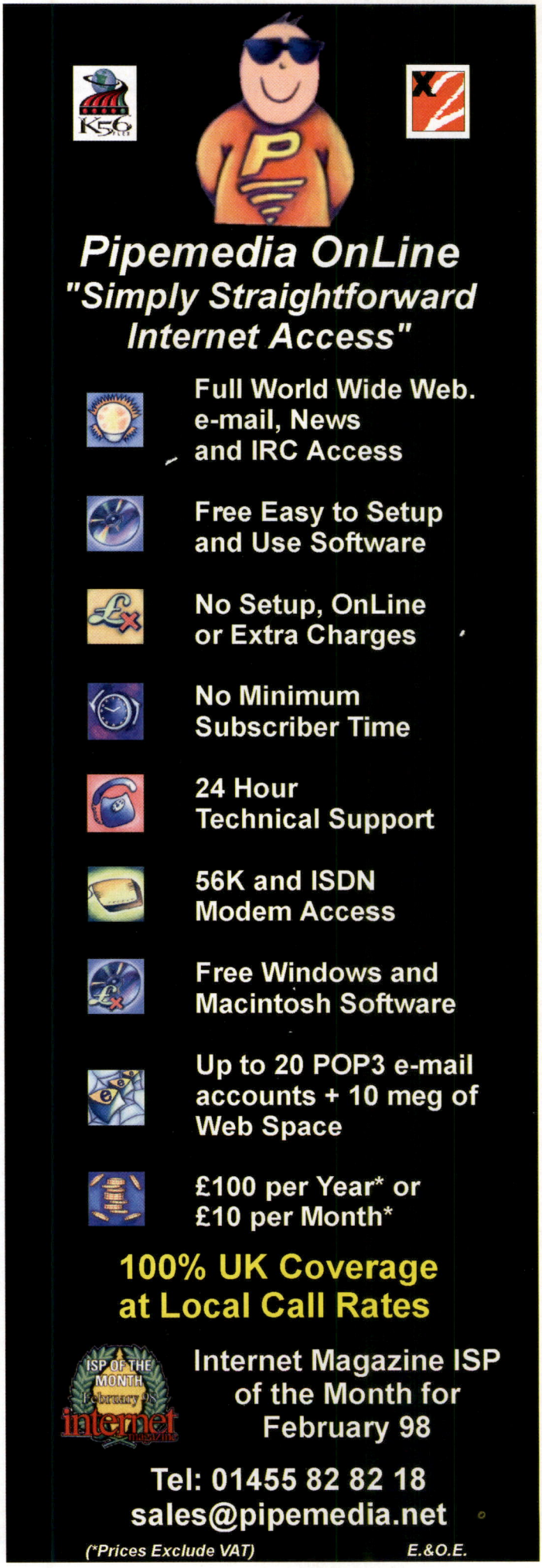
★★☆☆☆

HomePage

Price *£106; free trial available online*
Platforms *Mac, Windows 95/NT*
Pros *Easy interface, good help files, excellent content and style libraries. Fairly easy database integration*
Cons *Poor handling of HTML, particularly tables and colour. Only supports FileMaker Pro for databases*
Contact *FileMaker Inc*
Phone *(0345) 413 060*
URL www.filemaker.com/



There's a wealth of clip-art, GIFs, movies and styles available in the bundled libraries



Drumbeat

Can it create Web pages for all types of browsers with a few mouse clicks?

The software industry is continually trying to come up with the ultimate Web publishing product in what will surely become a multimillion-dollar market. For DTP it's Quark, for image manipulation it's PhotoShop and for Web production, Elemental Software would like it to be Drumbeat.

Of all the publishing environments I've looked at in the last few months, Drumbeat has strong potential to be the authoring tool of choice for Web publishing, as it has grasped the essential principle that other products seem to have missed – true cross-platform independence at both server and browser. Where other development environments (Microsoft FrontPage, NetObjects Fusion, Hahtsite) require their own server extensions to be run as a CGI process on your server, Drumbeat generates the necessary code to run on IIS (as ASP files) or Netscape LiveWire. For Web administrators worried about third-party server processes, this is a real benefit. For authors who move from site to site and project to project without always knowing the end server's architecture, it's a definite plus.

At the client, you say whether you want to build a site for IE4, Navigator 4 or 'generic'. Currently, Drumbeat will use the HTML features, etc, appropriate for the browser selected – the release version promises SmartPages that build a versions of pages for different browsers and writes the server script to ensure the appropriate version is sent to the browser.

We looked at the 'preview' edition of Drumbeat v2, which is still some way off the stable, released product. Although the majority of functions were present, some options did unexpected things and the software crashed a few times (under NT Workstation). This version is optimised to produce IE4 pages and is heavily into absolute positioning of page elements using cascading style sheets. Again, the released version promises full cross-browser compatibility.

On starting Drumbeat, the screen splits into four main areas. The main window is a drag-and-drop editing window and offers the functions you'd expect. A toolbar gives you access to the common editing functions along with the buttons and input fields for forms.

On the right hand side of the screen are three areas. The first is where you create pages within your site and view the properties of any elements on a page. Next comes a list of all the 'assets' you've assembled to create a site – which can include images, text files, ActiveX and Java. Finally, there's an image preview area which gives you a thumbnail of any image in the asset window. In no time you learn how to drag assets onto the page, and create new pages and links.

To add multimedia (DHTML) effects to any element on the page, select it and apply an effect – cleverly, if you select two elements, you can apply effects such as 'dim everything else when the mouse is over this element'. You can also apply the standard JavaScript OnMouseOver and OnClick actions in the same way, so changing the status bar text when the mouse is over a link is a simple matter of right clicking the link and choosing the option from the pop-up menu.

If clever and interactive page design was the limit of Drumbeat's creativity, it wouldn't be a anything to get excited about. The impressive part is that you can build database-driven sites with virtually no knowledge of the underlying code.

Drumbeat first automatically generates the page in a PageSet. This is a group of pages which share a common design, but the page content comes from an external source. You can have Drumbeat look at comma-separated variable (CSV) files, which you can produce in something like Excel. Or you can have Drumbeat dynamically publish pages from an ODBC database when the page is requested by a browser.

Second, you can create HTML forms that create, delete, search and update records in ODBC databases. Drumbeat constructs both the native server side code and produces client pages which you can then customise.

In terms of editing the HTML that Drumbeat produces – don't bother. You'll probably have difficulty understanding it, and Drumbeat won't be that cool about editing after you've played around.

When it comes to 'publishing' the site from your authoring system to either your staging or production servers, its simply a matter of clicking on the publish button and Drumbeat will FTP the necessary to the relevant Web server.

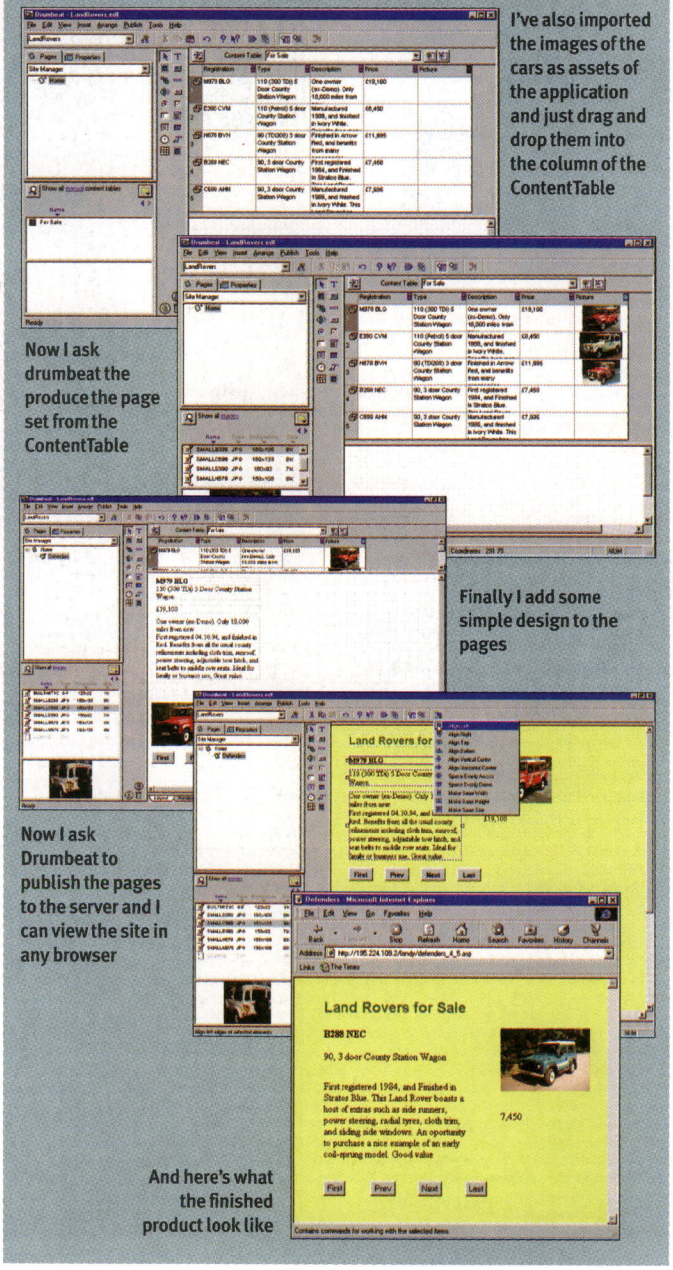
There's something about Drumbeat that feels right. The way the user interface has been developed and the access you've got to advanced HTML and DHTML features means that if Elemental can deliver on its promises, Drumbeat will definitely be a serious contender. Interestingly, the company is backed by some large venture capital companies and what's described as 'a significant equity investment' from Microsoft.

John Elliott

★★★★☆

Step by step dynamic publishing

I want to build an online catalogue of a garage's cars for sale. In Drumbeat I create a Content Table which is stored as a CSV file – I could equally have imported this from a spreadsheet or a database



Elemental Software Drumbeat Professional

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Pros *Has the potential to be the best Web development tool we've seen*
Cons *Too many bugs in the preview*
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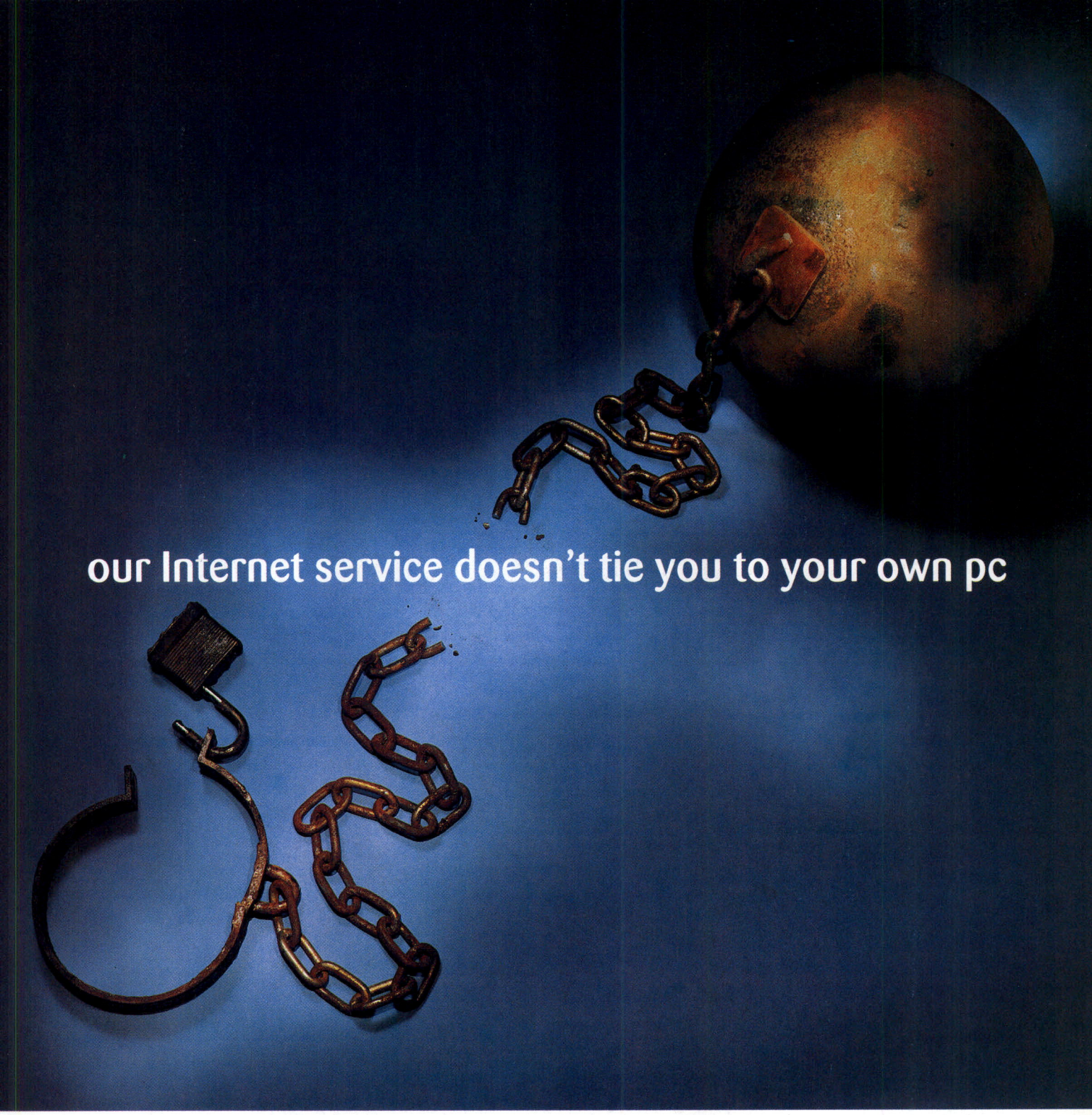
Phone *00 1760 931 7171*
URL www.elementalsoftware.com/



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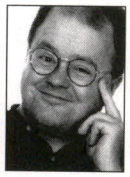
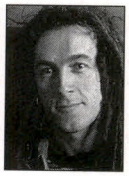
Expert help

Readers' questions are answered by our panel of experts. Send your query to faq@internet.emap.com



Richard Baguley is our technical editor. He'll be answering your technical questions on everything from relational databases to digital signatures.



Mike Slocombe has designed sites for clients that include Snickers, Zenith Films, Direct Connection, and Precision Software. He also produces Urban 75, an irreverent online magazine. Mike will be answering all your Web design queries.

Roger Gann is a freelance computer journalist. He specialises in connection issues. If you're having trouble with Dial-Up Networking or want to know why your 56K modem just isn't talking to your ISP, he's your man.

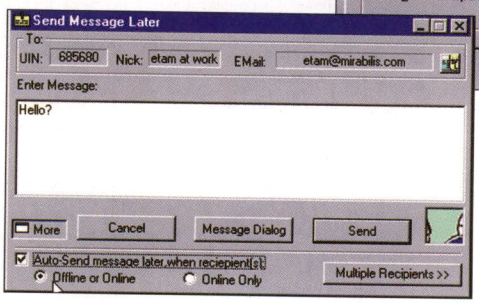
Michael Chissick is the head of Internet and IT law at Field Fisher Waterhouse, a city of London law firm with 50 partners. He'll be ruling on your legal problems.

Please note...
We can only answer the questions we print here.

Is ICQ insecure?

Q In the March issue of *Internet Magazine*, you stated that "no-one can eavesdrop on your private conversation if you use ICQ". Unfortunately the chat software ICQ is not quite as solid as you might think. Firstly, ICQ sends plain text authentication, and that means any person with Linux and half a brain can download a program to sniff out your ICQ connection and get hold of your password. The second flaw is the easily guessable sequence numbers – starting from 0 each user session. It's also possible to flood an ICQ user with messages. I've managed to send a friend 200 messages in 20 seconds – a spammer's delight, surely. I'd appreciate your comments on this.
Samuel Stocker
posix@mcmail.com

Richard Baguley replies: We passed your comments on to Mirabilis, the company behind ICQ. Ariel Yarnitsky of Mirabilis told us: "In general, Internet applications and systems are not bullet-proof. Mirabilis has to balance heavy client software that provides a higher level of security with thin client software that has a lower level of security. We believe we've got a decent balance: tens of thousands of new subscribers join the ICQ system daily. Most of the issues raised by your reader are outdated, and some of them are possible only in very few rare situations. Mirabilis is continuously working on offering more security, privacy and filtering possibilities. And as a general rule, unless secured systems are being used (which is not the case with ICQ, email, or most of the Internet communication programs), we advise that these systems shouldn't be used to carry any sensitive content."

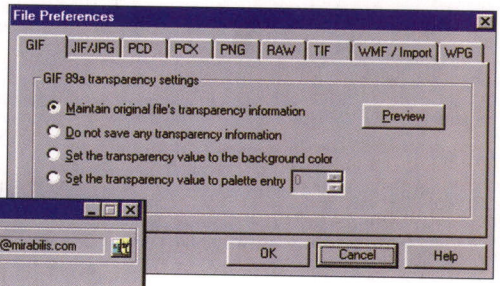


Could messages sent over ICQ chat software be intercepted? See Is ICQ insecure?

My GIFs are grungy

Q I'm using a GIF on my site that I created using an oval mask. I've made the area outside the oval transparent so it doesn't show up against the background. This looks great on my local copy of the site, but when I log onto the Web I get a black background on the image. If I go to another page, using a hyperlink, and then return to the page with the image, the background disappears. Can you help?
Peter Watson
peterwatson@mcmail.com

Mike Slocombe replies: It sounds as if you haven't specified the right background colour in your HTML code. Not all browsers have the same default background colour, so it's good practice to specify it in the <body> tag, along with the text and link colours. For example:



Transparent GIFs can look great on a page, but you have to be careful how you set them up

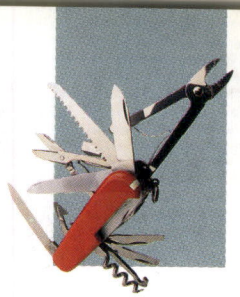
```
<BODY BGCOLOR="#FFFFFF"
TEXT="#000000"
LINK="#0000FF"
ALINK="#FF0000"
VLINK="#400040">
```

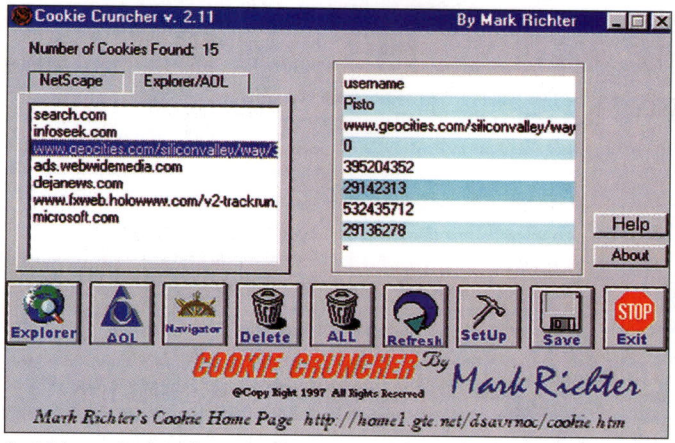
Top reader's tip wins

I have found out about a useful feature of Microsoft Internet Explorer 4 called 'Font Embedding' so you can now use any fonts you want and know that your [IE4-equipped] readers will be able to see the font you intended them to see! All you need to do is download Microsoft's Web Embedding Fonts Tool (WEFT), which you can get from www.microsoft.com/typography/web/embedding/weft

This program creates something called a 'font object', which is a compressed file containing only the characters used on your Web site. It's installed by IE4 for its use only.
Leif Cussen
leifc@easynet.co.uk

Thanks for the tip, Leif. It is worth remembering that this technology is still only in preview – Microsoft isn't fully supporting it. If you want to incorporate fonts in your pages for IE4 users, it's worth looking at, though.





Squish 'em as they're trying to sneak in *and* mash up the ones you're already got, free of charge, with Cookie Cruncher

Cookie good? Cookie Not

Crush the cookies!

Q I use Navigator 3 and I'm not getting any notification of cookies coming down the line. Can you tell me where I can download or buy a program that will warn me when I'm about to receive a cookie and give me the option of not receiving it?
Mike Adams
michael.adams9@virgin.net

Mike Slocombe replies: Cookie Not (**www.geocities.com/SiliconValley/Vista/2665/dload.html**) lets you specify whether you want to accept cookies, but it is slightly difficult to set up.

My favourite is Cookie Cruncher, Version 2.0 (**www.RBAworld.com/Programs/CookieCruncher/**), which can tell you what cookies you've already got on your system, gives you the option of deleting them, and, in the case of Navigator, can prevent any more being left on your system. And it's free!

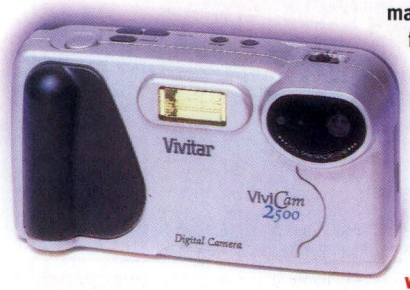
Also worth looking at are Norton Safe (on the Web at **www.symantec.com/sabu/nsw/index.html**) and Cookie Master (**www.hotfiles.com**). If you just want to get rid of cookies forever, you can use the Start/Find command in Windows 95 to find your system's COOKIES.TXT file. Once you've got that, right-click on

a Vivitar camera

DIGITAL IMAGING

Leif wins a Vivitar camera, the ViviCam 2500 digital camera. It's the perfect camera for Internet hobbyists, with a 1.8-inch colour LCD display and an RRP of £259.99. You can store up to 64 pictures in the camera's internal memory at a resolution of 480x360 pixels, making the ViviCam 2500 ideal for taking pictures for your Web pages or for emailing to friends. Other features include auto flash, a self-timer, macro mode, a carry case, and graphics and photo album software.

For more details on Vivitar's products, visit www.vivitar.com



Share and share a modem

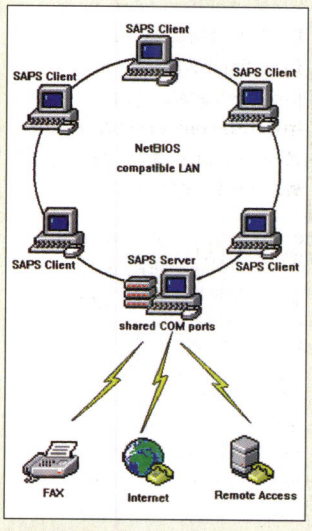
Q We currently have two separate computers, an AMD P75 with 32Mb of RAM and an IBM P200+ with 16Mb of RAM, which is connected to the Internet. I'm hoping to network the two computers, so I can surf the Web and send email over the network, but I don't really know what I need apart from the network cards. Both machines are running Windows 95 and the P200 is using IE4.
Ian Newson
ian@newson.prestel.co.uk

Roger Gann replies: Networking two PCs is pretty straightforward, Ian, and, these days, fairly cheap to implement. As you say, all you need is a pair of network cards, price about £25 each, and some thin Ethernet cable. Windows 95 includes all the necessary networking software to share drives and printers. Make sure you get Plug and Play network cards to simplify installation.

Once they're installed it's just a question of making drives and printers available to the network (a process called sharing) so the second PC can share them. Enable file and print sharing on both machines and check they're members of the same workgroup. You'll probably be using the NetBEUI or IPX/SPX networking protocols, or both, but these will peacefully co-exist with the TCP/IP you've already installed for Dial-Up Networking.

It's easy enough to share a single modem on a network, but you'll need some extra software such as MidPoint Companion (**www.midcore.com/**) or SpartaCom's SAPS v3.20 (**www.spartacom.nl/saps.htm**). Note that these utilities offer modem sharing only and won't, for example, let both PCs share a single connection to an service provider in the same way that a router can. If you need this sort of device, see our round-up of ISDN routers on page 68 of the March issue.

Your email desires are less easy to satisfy. As I understand it, what you're asking for is nothing short of a full-blown networked email system, such as Microsoft Mail or Exchange. Now it's certainly possible for a standalone PC plus a standard email client to cope with multiple email addresses, and plenty of ISPs offer them as standard. The problem with this approach comes with placing one person's mail on the P200 and one person's on the P75. For this you'd need a proper mail system. You can use the elementary Microsoft Mail software that comes free with Windows 95, but this is an internal email solution that forces you to use either the Outlook or Exchange mail client.



Systems like SpartaCom's SAPS let two or more computers share one modem

You'd then need to invest in a Microsoft Mail Internet mail gateway add-on to allow your system to collect mail from your ISP and distribute it, such as Seattle Labs SLMail. If you were running Windows NT, the Edinburgh University EMWACS centre does offer a freebie mail gateway, EMWAC Internet Mail Services for Windows NT, downloadable from **http://emwac.ed.ac.uk/html/internet_toolchest/ims/ims.htm**

it, select Properties, and click on the Read Only option. This means that the browser can read the file (to read existing cookies), but it can't create any new entries in the cookies file.

Too hard to Telnet

Q I need to Telnet into my workstation (office PC). UUNet has told me I can't Telnet remote hosts using its software. UUNet has given me a SLIP/PPP account, and apparently I can't issue Unix commands. Are there any ISPs that still use Shell accounts so I can Finger and Telnet to my workstation?
James Edwards
xzw44@dial.pipex.com

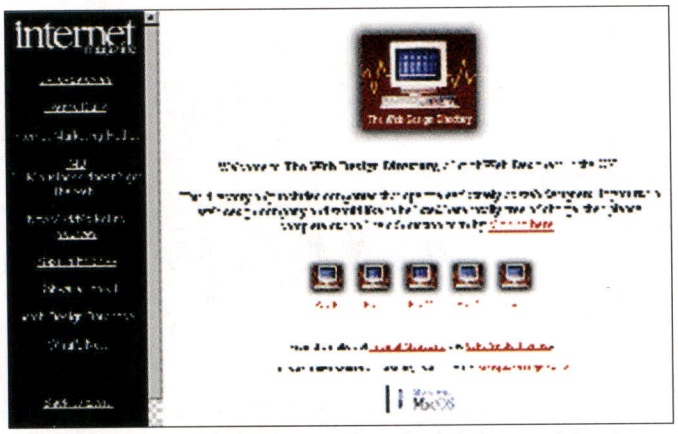
Richard Baguley replies: I think there's been some confusion between you and UUNet. Telnet is a protocol that allows computers to communicate over the Internet – it's not something that runs instead of the normal Internet standards. It's rather like email or news – different types of computers have a standard way of talking to each other. You don't need to be running on a Unix machine to Telnet to another computer.

Windows 95 includes a Telnet program – all you need do is to select Run from the Start menu, type in Telnet, select Remote System from the Connect menu and enter the address of the computer you want to Telnet to. You should then be able to connect to your machine, log on and do what you want to do.

However, there are some factors that could stop this working – your company may have a firewall (a device that controls the flow of data from the Internet into your company), which could be configured to refuse Telnet connections. You should check what you can and can't do with your network administrator.

A database of designers

Q Do you know where I can find a comprehensive list of Web designers' addresses, emails and URLs?
Simon Roberts
s.roberts@mail.btinternet.com



If you're looking for a site designer, the database of Web designers on Internet Magazine's Web site is a good place to start

Richard Baguley replies: We have a database of Web designers on our site at www.internet-magazine.com. You'll find them in the Resources section. You could also check out the Web designers section in the UK branch of Yahoo! (see www.yahoo.co.uk).

Searching for a search engine

Q I'm new to the Net and I'm getting confused. I've signed up with AOL and seem to be able to access a site by its Web address, or I can use Lycos, AltaVista or Excite. Are these browsers or search engines?

I've also been told I need a copy of Internet Explorer, but I'm a bit worried about IE4. If I do download it, will it be a browser or a search engine – and how will it work with AOL?
Ian Bates
Kernyck@aol.com

Roger Gann replies: Lycos, AltaVista and Excite are all search engines – Internet tools that let you find what you want with your Web browser, such as Internet Explorer. AOL's current software, version 3.0, includes the Internet Explorer browser and so there's no need to download another version: you should already have it on your installation CD-ROM. Since AOL fell into line with other ISPs by offering a true TCP/IP connection to the Internet, you can use any generic Internet software. So you can use any browser – for example Mosaic or Navigator – or an FTP client, such as CuteFTP. But this doesn't extend to email or newsgroup access – for this you still have to use AOL's proprietary software.

AOL ate my attachment

Q My email simply can't handle attachments. I get a dialog box saying the application is being launched, but this is followed by one that says 'Unable to launch application'. This is despite attachments being sent in Word, which I do have.

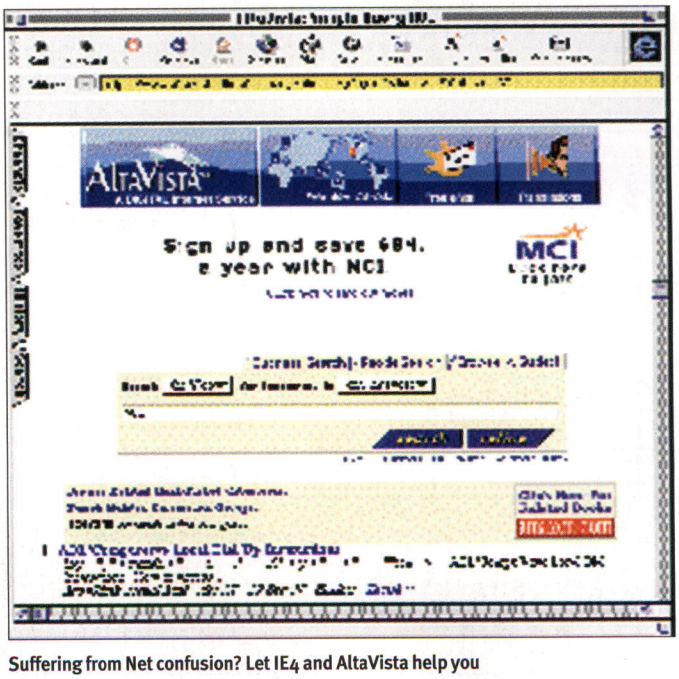
I was previously with Cable & Wireless (Mercury Internet Dial) and am now with AOL, but I've had this problem with both services. Attachments have been both images and text. Can you please help?

The second problem (although since apparently rectified) was that an email I sent to a friend in Japan was returned to me saying 'Too many hops 19 (17 maximum)' – I thought the Internet was truly international? I've subsequently been able to get through, but wonder why this hiccup occurred.
Mike Mogano
MMogano@aol.com

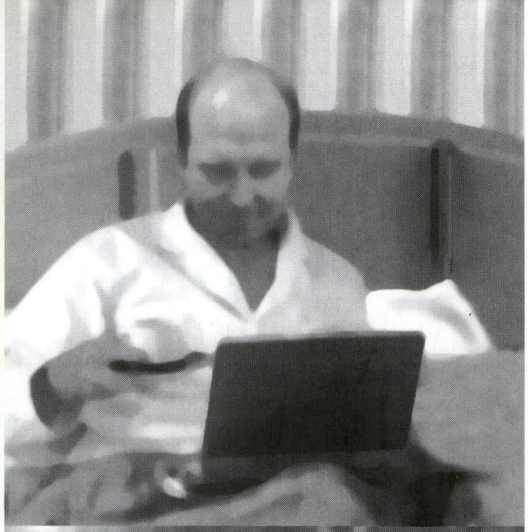
Roger Gann replies: Because the Internet is a 7-bit service and the files we send are 8-bit, they have to be converted to a 7-bit format before being sent as attachments. There are two incompatible encoding schemes in common use: MIME (Multipurpose Internet Mail Extensions) and UUencoding. If your email client is expecting an attachment to be MIME encoded and is sent one UUencoded, it won't know how to decode it. And vice versa. I'd check with your email correspondent that your email clients are both using the same encoding scheme. After that you should have no problems sending files as attachments.

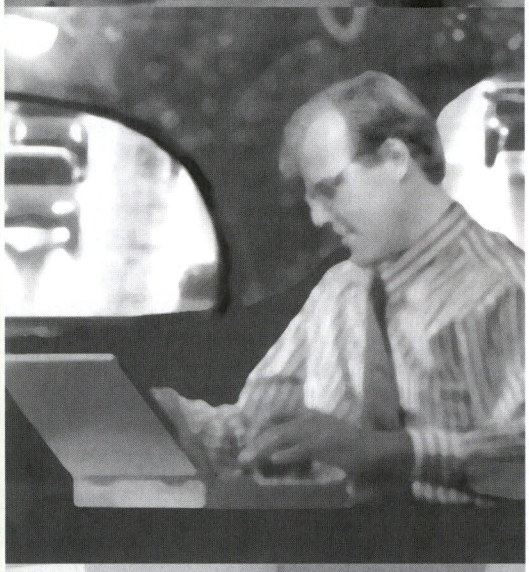
We asked Henry Ritson of UUNet about the mail hops problem, and he told us:

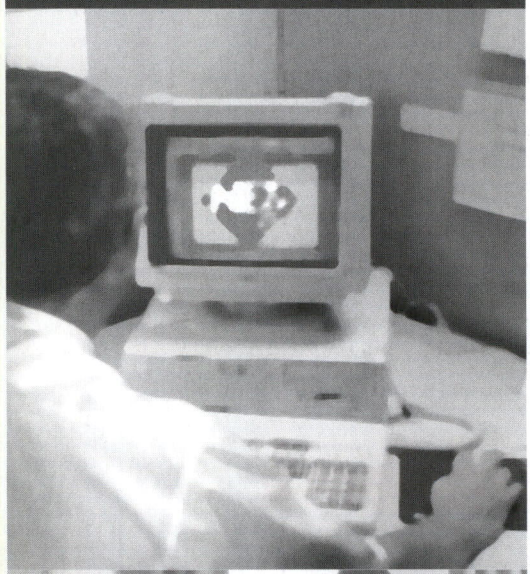
"Email gets forwarded across the Internet from mail server to mail server until it reaches its ultimate destination. Each pass is called a hop. If a mail server along the way is having problems, it simply bounces back mail to the mail server trying to send it. The previous mail server keeps trying to resend the mail and after a while gets bored if the same mail keeps getting bounced back. Once it's exceeded the number of retries it's been told to attempt (each one equivalent to a hop), it returns your message with a note



Suffering from Net confusion? Let IE4 and AltaVista help you







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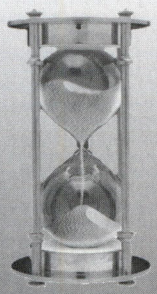

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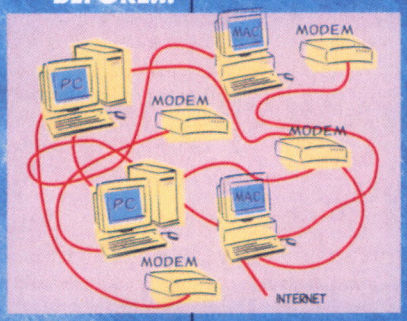

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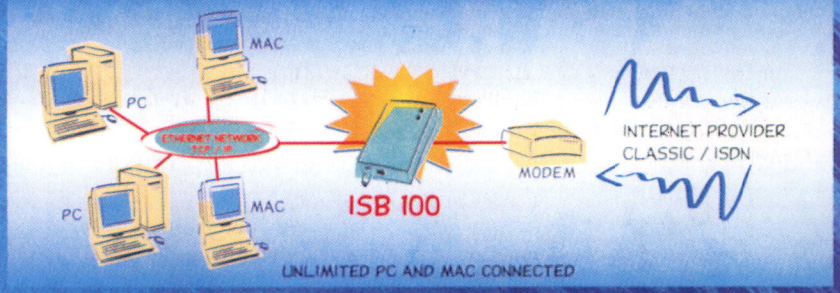

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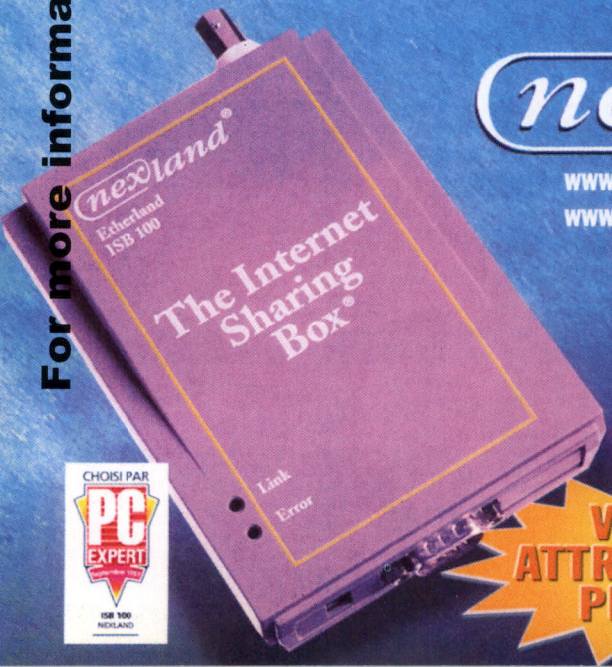

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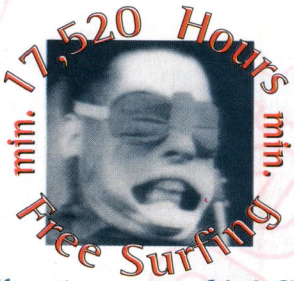

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that it was unable to deliver it. A mail server somewhere between here and the land of the rising sun was having problems, which were later resolved."

Traceroute also talks about hops. This program lets you see how data flows over the Internet from your computer to a site. To use it, open a DOS window and enter, say:

Tracert **www.internet-magazine.com**

<CR>

You'll then see a hop-by-hop listing of just how your browser makes a connection with this site. Obviously, the further away your eventual destination, the higher the number of router hops will be.

Time is money

Q Is there any software that will help me monitor the cost of my telephone calls?
Huw Price
urddas@globnet.co.uk

Richard Baguley replies: There are several utilities that will monitor the cost of your calls, but the best one I've come across is OnLine Meter by Michael Krebs. This rather nice little shareware program runs in the background on Windows 95/NT machines and watches your dial-up networking. It then keeps a log of your calls, along with the cost of each one. It can even be configured for special offers and discounts, such as BT's Friends & Family. It's a shareware program, so you have to pay for it if you want to use it on a long-term basis, but it's not expensive at $15 (around £10). There's a demo version available which you can try for 30 days for free. More details from **www.webutils.com/om/**

Every (copyright) law you break...

Q I run a site for a national organisation and am in the process of overhauling it. It's an online daily magazine. An aspect we're keen to implement is music. Not mandatory listening: it's down to the user to decide whether to download it or not. What concerns us is whether we would be breaching anyone's copyright if we hosted a freeware MIDI file such as *Every Breath You Take* – original by The Police, of course. What are the rules?
Andy Barnes
nessie@saqnet.co.uk

Michael Chissick replies: Most musical works on the Internet are protected by copyright. In fact, there's been a lot of unauthorised copying, which has led to legal actions. Sony Music sent notices to creators of Web pages honouring one of its artists, Pearl Jam, asking for sound clips to be removed. Meanwhile, Elvis Presley Enterprises ordered the removal of sound clips from *Blue Suede Shoes* and *Hound Dog* from fan's home pages. The Oasis management has been after anybody using unauthorised sound or video clips of the band on the Net.

Every Breath You Take is protected by copyright. I don't know if the copyright owners of this work have licensed people to post a freeware MIDI file on the Net.

You should contact the copyright holder and check it out.

Legal brief: The EU and Internet commerce

Lawyer Michael Chissick looks at how the new EU rules could affect Net commerce whether you're buying or selling online

The European Union has recently set up a directive that regulates sales over the Internet. Anybody selling over the Net will soon have to make sure EU consumers have detailed information about products and are notified of their contractual rights. Known as the Distance Selling Directive, this will come into force in all EU member states in June 2000.

Most of the measures proposed are constructive. In fact, many Web sites already comply with them. The directive is generally a good thing – it should lead to increased consumer confidence in the Internet.

Before customers buy

The directive specifies what a customer needs to know before they buy anything from your site, including:

- The supplier's name and address
- The main features of the product or service
- The product's price and any taxes
- Delivery costs
- The arrangements for payment and delivery
- The duration of the offer

You must provide this information "in a way appropriate to the means of communication", such as a link to these details on another page.

Before suppliers deliver

Before delivering products, or when they deliver, suppliers will have to tell customers:

- How they can withdraw from the contract
- About after sales service and guarantees
- Whether they can cancel long-term contracts

This information has to come via a durable medium that's "available and accessible to the consumer". Email should be fine.

Getting out of the contract

Customers buying over the Net will have the right to withdraw from a contract within seven days of getting confirmation of their order or receiving the product. They won't have to give a reason or pay any penalties. The supplier then has 30 days to reimburse payment or to cancel the credit agreement. However, this right to withdraw won't apply to shrink-wrapped software, CD-ROMs or video recordings, or to products whose services begin before the end of the seven days, if customer and supplier have agreed this.

Fulfilling contracts

Suppliers will have to deliver the goods, or perform the service within 30 days, unless the customer and the supplier have agreed something different.

How to pay

The directive doesn't specifically cover credit card payments, but the new Secure Electronic Transfer protocol should solve many of the current problems of credit card fraud and the consumer doubt it's created.

Contracts not covered

Contracts are excluded from the directive if they:

- Relate to financial services
- Are concluded by automatic vending machines
- Are made with telecomms companies via payphones
- Relate to immovable property
- Are concluded at auctions

If you' re setting up an e-commerce site, save time by making sure you comply with these directives now.

Stop these heartless spammers!

Q I recently got an email forwarded to me that said if I didn't forward this message to 20 other people, my computer would contract a virus. There was no file attached to it, just a straightforward email. Is it possible to contract a virus this way, or is this someone's idea of fun? It really scared me.
A concerned IMPOCOLOCO
IMPOCOLOCO@aol.com

Richard Baguley replies: You're not the first person to get this kind of message, and you probably won't be the last. Don't worry about it – it's a hoax. You can't get a virus through an email message, although you should be very careful about running any programs or loading any files that people send you as attachments to emails – they *could* contain viruses. Likewise, programs downloaded from the Internet should be put through an up to date virus checker before you run them on your machine.

I'd suggest you email the person who sent you the message telling them you're not amused. You should also send a copy of this email to the postmaster of the site that it came from, as the user may have broken the rules of the site by sending this message. And, of course, don't forward the message to anyone else!

See **http://krypton.mankato.msus.edu/~gerlie/www/virushoax.html** for more details of how this hoax just keeps on going, and for lots more reassurance from all the experts. im

Dealing with the new media professionals

Yes, you can create your own banner ads and get them distributed via a link exchange. But sometimes it pays to call in the online advertising professionals. Steve Shipside finds out if they're worth the money

Last month we looked at how you could create your own Web ads. It's one of the Seven Wonders of Webbery that anyone can do this, and that the tools to create, post, and even audit your ads are all there – and are often free.

This month we investigate new media agencies. They claim to design, promote and generally set you up with a complete online advertising strategy. But are they worth the money?

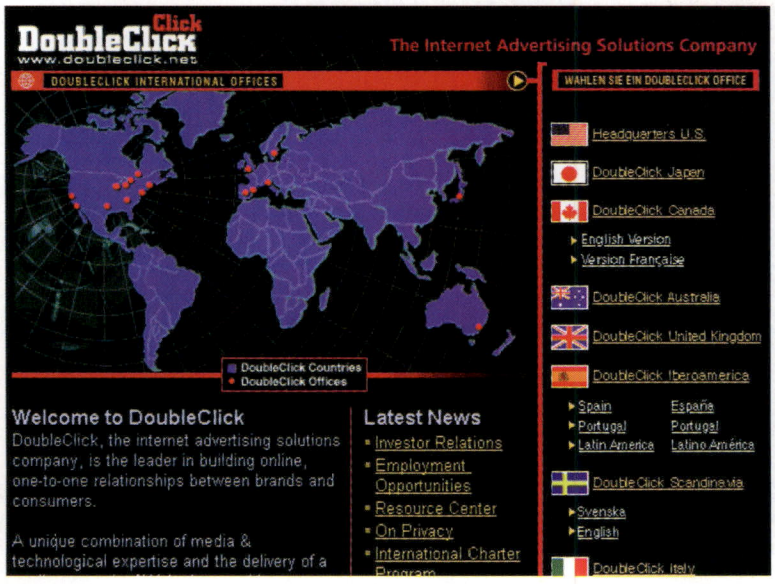
DIY: the link exchange route

Your first step is to find out if you need a new media agency at all. After all, Webvertising can take many forms. If your aspirations don't extend as far as a full-blown international campaign, and you think you can pass up the full motion streaming video, you could simply join a link exchange.

If you cast your mind back to swapsies in the playground, you'll have grasped the idea behind link exchanges. Some commentators even attest that they were invented by Noel Edmonds. A link exchange just means you host other people's banners on your site, and they host yours. Simple. Well, except you've got to come up with a banner, and simple banners don't necessarily bring the hordes to your door.

The number of click-throughs (people who go to a site by clicking on a banner) per ad is a relatively small percentage. Ad-X Network, an American company that pays you for click throughs from banners on your site, estimates the click-through rate at between one and four per cent of those who see the banner. Before you get too depressed, though, remember that estimates of the Web population start at around 30 million, so even a tiny percentage can mean a lot of conversions. Incidentally, if you want to find out about joining Ad-X, try **www.adx.net/faqs.html** But don't give up the day job – they pay one dollar per thousand hits.

If you want to choose where your banner goes, you could try one of the online Web auctions (typing 'banner space' into your search engine will give a fair selection) . Response to banners drops off sharply after their first viewing, so go for a rotation system. The smart advice, apparently, is to 'buy small and buy wide': only buy a small percentage of the banner space on a site and spread your ads over the widest available range. The problem is that most auctions are resident Stateside, and you may find yourself limited to a choice of irrelevant host sites. Alternatively, go to DoubleClick (information and rates at **www.doubleclick.com**), where you'll get the chance to profile the punters you want to reach. DoubleClick also plans and tracks the success, or otherwise, of your banner.



DoubleClick is a global Net advertising company. As you can see from the map, as the Web has grown, so has DoubleClick's revenue

Call in the professionals

If you want to get big-time traffic, you're going to have to call in the pros. Organising your own advertising is best left to the terminally impoverished and those rare few who happen to possess an awesome natural flair for it. If you believe that you or one of your colleagues has this awesome flair, ask yourself

this: why aren't you pulling down 150K a year in a Soho agency, eh?

Really professional advertising requires real professionals. Any ad agency will tell you that, and probably charge you for the information (we'll look at that next month). But some companies have gone a step further and decided that for real Net specialisation you should eschew conventional advertising agencies.

The traditional approach

Certain traditional advertising agencies, which shall of course remain nameless (at least until next month), are still liable to nod politely as you explain your desire for a Web campaign, then as soon as you're safely away in the lift, tell their most junior account handler to contract out your business to a cheaper, smaller new media agency. This is a bad thing.

Worse, once they've signed up a new media company to do the job, the traditional agency's creative types will go on to devise a potentially award-winning campaign featuring naked girls sitting on elephants hang-gliding over the silver sands and lush palm trees of distant Indonesian islands. This they then give to some miserable Webmaster, leaving him to work out how to get all that on a 468x60-pixel banner. Which he can't, by the way, in case you were getting any fancy ideas.

There is a way forward

So the DIY approach is best left to those with a lot of time on their hands and a bit of creative flair. And the big ad agencies are likely to take you for an expensive, graphics-laden ride. Thankfully, there is a halfway house. If you use a digital design house to create and maintain your site, ask what it offers in terms of advertising.

Robin Edwards, director of design services at Clockworx Design, has promoted sites for clients ranging from the Body Shop to Barnardo's. "We try to create advertising for our clients and their sites, as well as submitting the site to as many search engines and directories as possible. We've just finished a site for Thorntons [*for a range of dinosaur-themed choccies* – **www.discovery.thorntons.co.uk**], and we've sought out reciprocal links with museums because of the natural history theme." If the museums the Thorntons site links to don't already have Web sites, Clockworx will offer shelter to the digitally homeless by giving them space on the Thorntons site in return for content.

"Getting attention requires a whole new set of skills and a constant monitoring of the rules to make sure that search engines rank your site highly in the returned finds," Edwards says. No kidding, it was once the case that in order to move up the find charts you just repeated the keywords over and over again. Obviously, that would be a tad dull for the reader, so people started to use invisible text (easy to do – just make the text the same colour as the background) which the search engines picked up, but people didn't. Smarter algorithms which analyse repetition are making that particular trick obsolete.

"The other approach," Edwards adds, "is to get into listings like EMAP's 'What's New', which generates quite a few hits."

It's not just about response

But generating traffic is only part of the story. Good advertising also involves monitoring and analysis. "We use the Microsoft IISA statistics server, which takes the addresses of the Web sites and goes back to look up the country of the service provider. It also gives us usage pattern details," explains Edwards.

This is then fed back to the client. "We keep the technical stuff for our

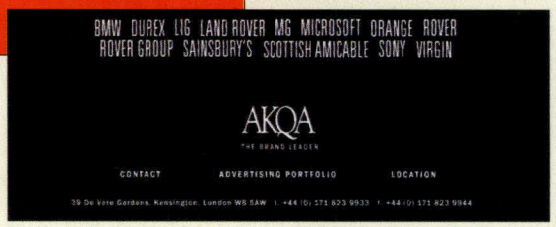
How Orange manages its ads

Nigel Shardlow, new media manager at Orange, chose to use not just one, but several dedicated digital agencies for the range of sites he oversees. "We use Clarity for the Pulse site [**www.pulse-city.co.uk**], AKQA for the Orange site, NoHo Digital for developing screensavers, and a company called Zone Group to do the Director and ShockWave work for CD-ROMs and kiosks. You choose to go to an agency because you haven't got the time, the resources, or the specialist knowledge to make the marketing decisions for yourself. There's no real difference in the issues concerning a digital agency and those concerning a traditional one." Orange does have a traditional agency, of course – WCRS – but nonetheless chose to seek out purely digital agencies for Web work. "The last few ad agencies we worked with didn't have dedicated digital arms."

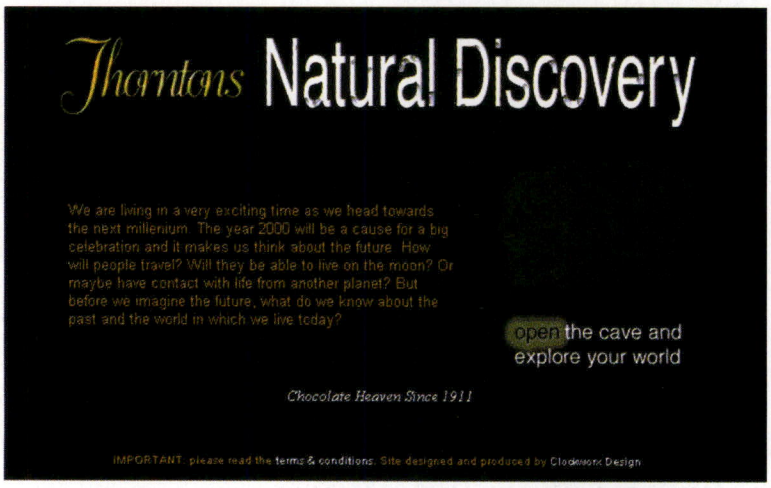
Orange went for two different agencies because each brought different skills to the party. "We have two agencies because we're talking about two separate brands with different audiences. Clarity has a strong business-to-business marketing focus which suited the Pulse brand, while AKQA has a strong consumer marketing focus [*developed and demonstrated by their work for Durex*], which suited the Orange brand. Both agencies have done some brilliant work for us."

And now the big question. How much does this brilliance cost? "It depends on the volume and scope of the work. With Clarity we've got a focused site [*promoting pagers*] that's got a target audience of 4,500 high-value customers, and it's a dedicated acquisition tool. As a result, we spent less than £100,000. On Orange we'd expect to spend £200,000."

Clarity handles Orange's Pulse site, which promotes pagers



AKQA takes the main Orange site business



Clockworx Design's site for Thorntons includes ads, reciprocal links and Web space for prospective clients. This is the type of fully-fledged campaign that specialist new media agencies provide

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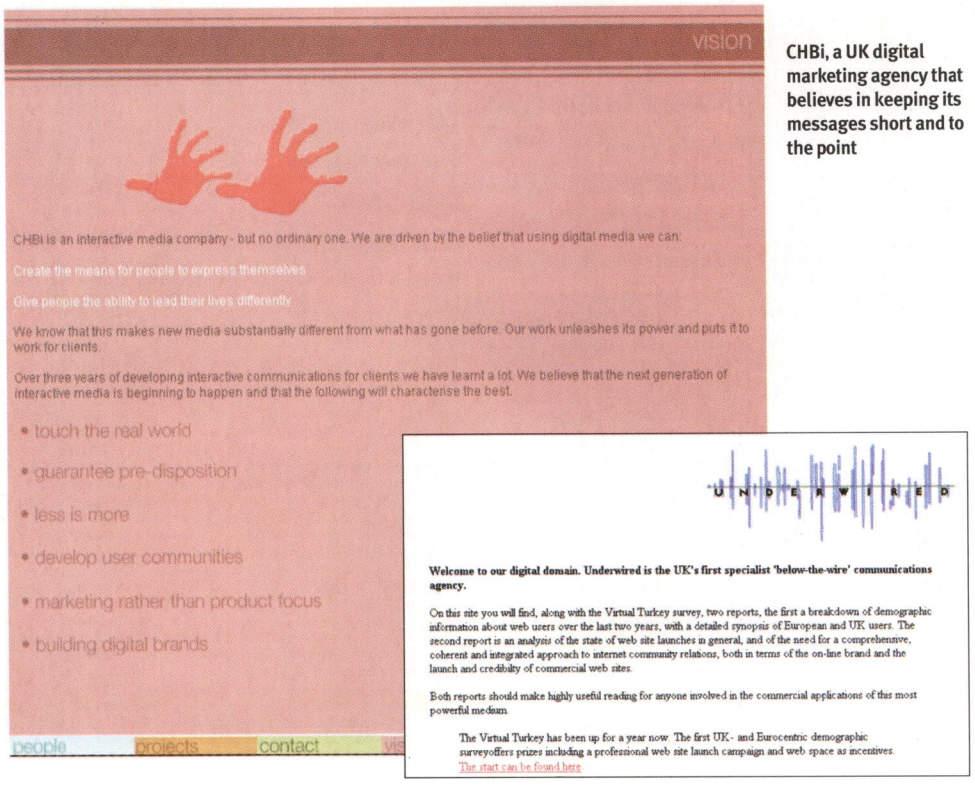

CHBi, a UK digital marketing agency that believes in keeping its messages short and to the point

Not in fact anything to do with women's underwear, Underwired is actually the UK's first below-the-line online agency

eyes only – which browsers/platforms and so on – and tell the client about the number of users, the page impressions and the popularity of pages." This last piece of information can throw up unexpected results. "We have one client with a page that lists customs regulations around the world – it turned out to be incredibly popular, so now they're tweaking the site to give it more prominence, " reveals Edwards.

Clockworx provides this information to its clients monthly, unless it's in the first few weeks of a new project when they'll get feedback more regularly.

The next step

One Web design house has gone a step further, boasting a sister company that deals purely with online marketing. Underwired sounds as if it should be a women's underwear store, but is actually the UK's first below-the-line digital marketing agency.

"When we created the Snickers site, it was promoted online for eight months exclusively by Underwired [**www.underwired.com**], with an average 140,000 page impressions per week after nine weeks," explains Felix Velarde, MD of brother company Head New Media [**www.head-newmedia.com**]. "Underwired does all the client work – online research, PR and site launches – but doesn't touch any of the traditional media at all. It works on relationship marketing, so if a site is launching it'll contact a list of Webmasters, strike up a dialogue, and encourage promotion of the site."

This set of services doesn't come cheap, though. Velarde explains that you should set aside about 10 per cent of the site production cost for launch promotions. The Snickers site budget was £300,000 and the cost of promotion was around £20,000.

Go a step further

But there's more to Net marketing than scaling the search engine charts and organising link swaps. "Our contention would be that successful use of the Net as a marketing tool involves considering how it changes the costs of distribution, how it enables a company to offer higher levels of customer service, how it lets a company create previously undeliverable products or services, and how will it change supply chain costs?"

The man with the questions is James Tarin, director of strategy at Clarity Communications, a dedicated new media marketing consultancy. "Online media can change the whole competitive advantage balance – if you look at financial services, for example, the Internet creates a new distribution channel of online virtual brokers. Customers can compare vendors' offers at the touch of a few buttons."

Which is precisely the kind of speech you'd get from any traditional ad agency, so why choose a new media specific one? "I don't think there's anything wrong with traditional agencies," notes Tarin, "and there are bound to be one or two with competent creative new media arms. But it's taken a long time for many agencies to catch up, and to be frank I don't know whether they're there yet."

So, having taken the plunge and strolled into the offices of Clarity (or rival CHBI), what can you expect? "That depends on what the customer wants – we tailor our services to meet each case. Some want a design-led approach, some want a technical solution, and some want what we're best at, which is developing a full online marketing strategy."

This is a long process, starting with consultancy services, and moving on to research and focus groups and interviewing senior managers so you can understand the company's strategy. "Then we look at how new media can be harnessed to fulfil these needs. After that we boil the strategies down into marketing plans."

New Media consultancies then get on with the creative work – or at least they do if, like Clarity, they have in-house creatives. If they don't, you need to ask a lot of questions, because employing two separate agencies for strategy and creation means you run the risk of those multimedia misunderstandings that have dogged traditional advertising agencies.

A good agency should be able to design the whole thing from the ground up – sites, strategy, pages, design, HTML and all. And even then, that's just the beginning. "We find that hand-holding is a major requirement," agrees Tarin.

If an agency isn't keen to follow through with maintaining and refreshing the strategy, you should demand to know why not. "There's plenty of work for all of us," enthuses Tarin. "This market is growing at such a rate that if you can't win work and make money it's because you're not very good."

Excellent news, except that such rich pickings are bound to attract hopeful cowboys. If they're not interested in repeat business, and don't want to hold your hand throughout, just say 'No'. All the usual rules on engaging a third party apply. Previous work is not proof enough in itself – a truly successful agency should be more than happy to arrange for you to talk to existing clients.

While digital agencies are clearly on the up, carving themselves a tasty slice of the market in the process, some clients and campaigns still cry out for the kind of treatment that can only be meted out by the traditional agencies. Whether it's a question of scale, or mixed media, or even profile, there are cases where the only answer is to don your braces and head off to Soho.

We'll be giving you the lowdown on how to get the best value for money out of a traditional ad agency next month. im

Coming up...

If you really must look to a traditional ad agency for your Web site promotion, make sure you read next month's investigation of how adland has embraced the Net.

● To get hold of previous articles in this series, check out our Faxback service on page 136

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Setting up shop on your site

In the second part of his series on e-commerce, Tim Rafferty considers the underlying technologies you'll need to grapple with, and examines the Microsoft route to success

Napoleon reckoned we were a nation of shopkeepers. This, he thought, was a clever put-down based on the assumption that the British are all too busy worrying about trivial, penny-pinching concerns. He may well have been yet another vertically challenged continental despot who came to regret messing with a mad bunch of xenophobes, but perhaps he had a point.

Computers from Dell, books from Amazon and even dolls from the Spumco site prove the efficiency of e-commerce

Despite the rise of the hypermarket, there's still a strong streak of individuality in the British psyche which sees the ownership of a little corner shop as some miniature form of a declaration of independence. Unfortunately, having established their borders, a lot of small shopkeepers consider their customers to be about as welcome as a Viking raiding party.

What we really need is a way to set up a small business for next to no money, with no limits on who we sell to and no need to actually talk to anyone. Voila, as a smug Mr Bonaparte would say, the Internet looks like a perfect medium for our naturally materialistic misanthropy.

Electronic commerce really is a radical new way for anyone with a half-decent idea to set up a profitable business. Well, if you consider carefully all the basic strategies outlined in last month's article, that is. This month there's more emphasis on some of the underlying technologies you'll have to take into account and a look at Microsoft's e-commerce applications.

Happy customers

E-commerce is all about money. Or, from the merchant's point of view, it's all about getting money from the customer in the most efficient way possible. Imagine how successful a conventional high street shop would be if, at the point where the punter wheeled their full trolley to the checkout, you had to apologise because the till was stuck. Or it took 15 minutes to process their credit card. Or the other bloke who comes round to check their signature hadn't turned up. Or you could only say one word every 30 seconds. Or you only accepted Bulgarian coinage. Bizarrely, that's the kind of experience many online shops expect Net users to put up with.

Setting the rules

To complete a transaction over the Internet you need to sort out the following three areas:

1 Make sure that none of the information about any aspect of the transaction leaks out to anyone who's not directly involved.

2 Make sure that everyone knows who is involved in the transaction.

3 All the parties must agree on a common monetary basis for the transaction.

In a non-Internet transaction we take all of the above for granted. You wouldn't give out your credit card details over the phone, for example, if you knew that any number of people could listen in on your conversation (think about that the next time you use a mobile phone). Similarly, if a door-to-door salesman convinced you to buy an insurance policy from, say, General Accident, you'd be a mug to do a deal if he didn't have some identification, brochures or the phone number of GA's head office.

As for money, it's possibly mankind's most wacky invention. Cash is nothing more than trust translated into bits of metal and paper. Credit and debit cards are nothing other than cash turned into plastic.

Taking each one of our three rules in turn, the Internet has more or less cracked the first one, is getting round to solving the second one and is blasting off for planet Bonkers with the last one.

Keep it to yourself

This isn't the place to go into detail about the risks of having information intercepted on the Net. The main point to remember is that as a merchant you'll be bearing the brunt of any fraud perpetrated. You'll have to cough up for any goods shipped to the wrong place. The good news is that encryption technologies are now good enough to deter all but the most hardened of hackers from snooping on your Net-based conversations.

Both Netscape Navigator and Microsoft Internet Explorer can encrypt information passed to and from their browsers. These security measures prove that Web pages come from a known source and at the other end they prove that you are who you say you are when

How SET works

Clearing a transaction using SET involves a customer sending an encrypted message to the merchant using a browser-based wallet application. The merchant's SET compliant server checks the validity of the customer and then passes on the request to a third party gateway service. This in turn interfaces with the customer's bank to request clearance to continue with the transaction. If everything is in order the bank's computers tell the gateway service to progress and the clearing service tells the merchant's server that the customer's request is legitimate.

This might sound a bit long-winded, but the process is roughly the same as when a shop assistant phones through to a credit card company to check your worthiness to shop. The backing of Mastercard and Visa, as well as a bunch of leading software companies, has given SET authority within the emerging e-commerce market. The only difference is the use of an intermediary to prevent the merchant's computer having to know the phone numbers of all the possible financial institutions that might be involved.

www.setco.org

you send your personal details over the Net. This is all done with certificates.

Both of the major browsers allow you to set up your own certificate and to dictate which sources you're willing to accept information from. I suspect that up to now the vast majority of Web users, especially in the UK, have never looked at these security features. Generally, when surfing the Web you're not too concerned about where you connect or what information you return.

Of course, all this will change when people start to buy products online *en masse*, so maybe now would be a good time to browse through some of the certificate providers out there, such as www.verisign.com.

Credit card plans

Mastercard and Visa have been working with several banks to set up another form of secure payments. Secure Electronic Transactions (SET) is a set of protocols developed and promoted by a conglomorate of financial institutions and computer companies, most notably IBM. SET combines the ideas behind encryption and certification and adds extra layers of tools. SET isn't a product in itself, it's a feature that's being included in various e-commerce servers. In the future, SET compliant client programs (such as browsers) will be able to talk to SET compliant servers, and both the merchant and shopper will know that their transactions are safe.

While it would make sense to think about SET when you're designing a commercial site, bear it in mind that it's not a fixed standard yet. Not everybody is convinced that SET is the answer, Microsoft has been notably non-commital, and many commentators have noted that the scheme is taking much longer than planned to gain widespread acceptance. There's a school of thought which says that SSL (Secure Sockets Layer) plus certification is all that's needed to persuade punters to part with their cash.

Others are worried that it's only the big boys who will be able to afford to implement SET solutions. They fear that this might allow these companies to dicatate how the standard evolves. Tellingly, Nat West recently announced that its implementation of SET would be delayed until 1999. The bank highlighted several areas of concern, including the stability of the system, its overall security and the complexities of getting so many different vendor systems to talk to each other.

Ultimately, SET or something very much like it will have to work because buyers will want a standard way of buying stuff over the Web. It's all a matter of transparency. All the punter wants to do is give over their credit card details and get the products within a reasonable time span. They don't want to know how the transaction is processed.

Alternatives to SET

In an attempt to make online payments easier there have been several alternatives to SET proposed. One idea is that we all use smart cards. These are like credit cards but they contain a chip, which can store far more information about who we are than a simple magnetic strip. These smart cards are quite popular on the continent, particularly in France, but they've yet to make much of an impact in the UK. Nevertheless, Barclays has recently gone very wobbly about SET and is promising to bring out an alternative system, based on smart card technology.

Perhaps more interesting is the whole idea of electronic money (see the Making e-money box on page 129). There are several schemes being cooked up, and no real indication yet of which standard will be the clear winner. It's also an idea which so far has been tried out mostly in the States, but you really should be aware of its potential, if for no other reason that you may have competitors or customers with access to these new forms of payments.

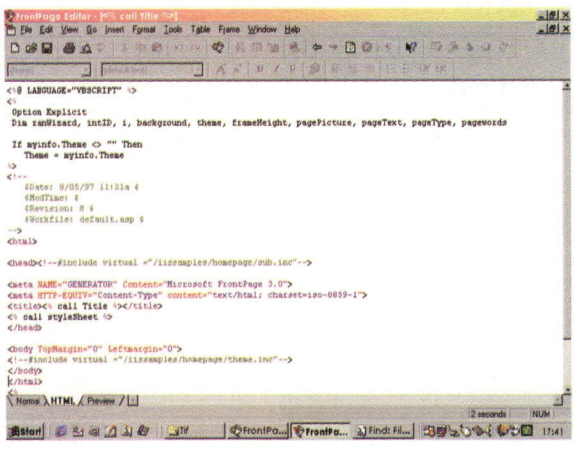
Microsoft's approach

Whatever happens, you can be sure that Microsoft will have a finger in the e-commerce pie. The company has seen its Web server business steadily grow and it's now competing with the likes of Netscape and Oracle. What's more it has a big user base already implementing its Back Office applications.

When it comes to e-commerce, Microsoft has a complicated set of inter-related products that have to be bolted together to create a single site. Here's the shopping list of Microsoft products you'll need for a typical e-commerce installation:

- For a start you need NT4 with Service Pack 3 and Internet Information Server 4 from the Options pack.
- You'll also need Internet Explorer 4.01 and Outlook Express to administer all of the tools which rely on Microsoft's Active Server Page and ActiveX technologies.
- Then you can install Site Server 3.0
- But you'll also need an ODBC-compliant database to store the Site Server information – naturally, Microsoft recommends its own SQL server product.
- Oh yes, and you should have a copy of FrontPage to manipulate the output from the server.

As part of Micrsoft's all-encompassing site creation policy, they encourage you to use FrontPage to create user and merchant interfaces



Commerce Server in detail

I managed to sneak a look at a beta release of Site Server 3. This comes with an extra product called Commerce `server. This setup makes sense, Microsoft is layering its products to provide a basic Web Server (IIS), a more sophisticated intranet manager (Site Server) and a commercial integration suite (Commerce Server).

The focus here is on the functions within the Commerce Server but bear in mind that it's an add-on product that only fits with the other Microsoft tools. Having said that, as you'd expect it does integrate extremely well as its designers

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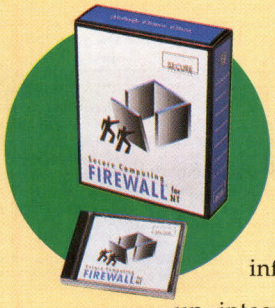

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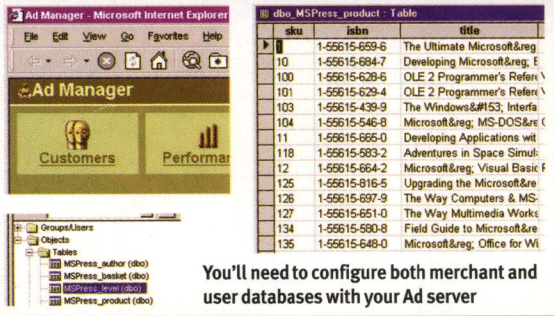
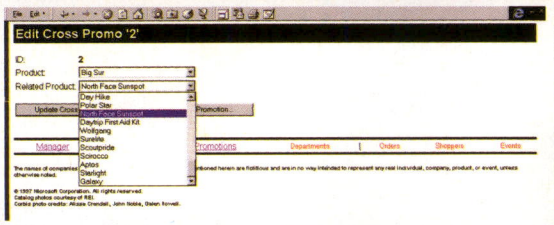
Figure ONE



You'll need to configure both merchant and user databases with your Ad server

Figure TWO

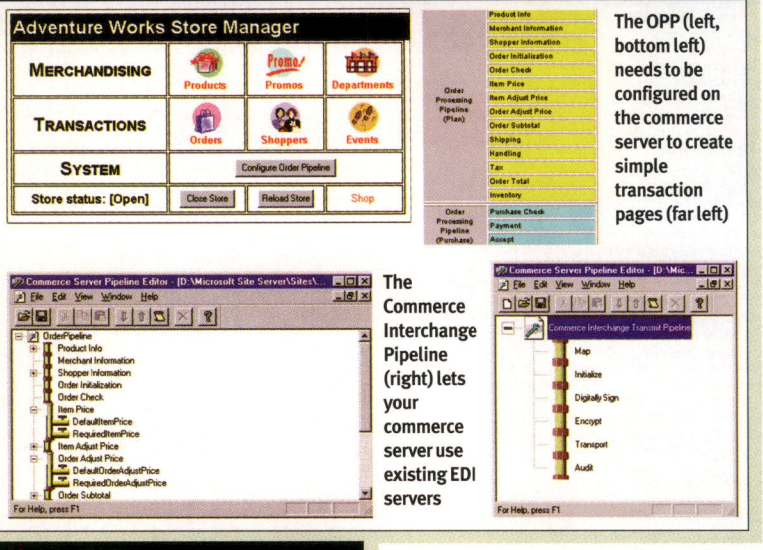


Use the Cross Sell add-on (below) to inform customers about special offers that are relevant to their existing buying patterns

Figure THREE

You can manage ad campaigns (far left) based on users' buying patterns (left) to create tailored Web ads (below)

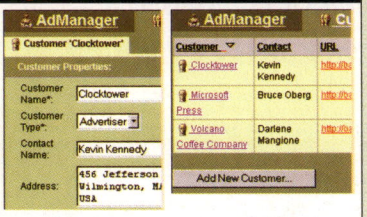
Figure FOUR



The OPP (left, bottom left) needs to be configured on the commerce server to create simple transaction pages (far left)

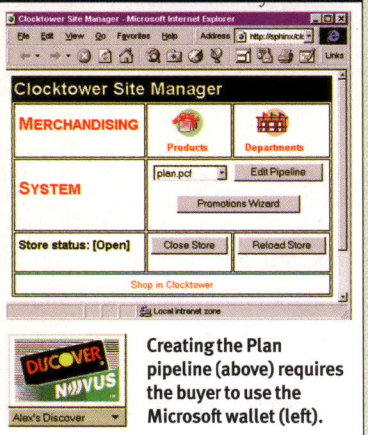
The Commerce Interchange Pipeline (right) lets your commerce server use existing EDI servers

Figure FIVE



Creating business to business (left) and business to user interfaces comes next

Figure SIX



Creating the Plan pipeline (above) requires the buyer to use the Microsoft wallet (left).

have been working towards a known and stable platform.

Before running the Commerce Server you have to set up two databases, one to store information from the Commerce Server itself and one to handle the Advert server. The package includes complete instructions on how to configure SQL Server or Oracle, although you're left pretty much in the dark if you choose another ODBC source (see figure 1).

Step 1: Marketing

Once you've finally got everything in place the Commerce Server's functions are broken down into areas that attempt to match normal business processes. For a start, the suite knows that to get any business you have to attract some attention. This is where the Ad server comes in, basically it's a glorified direct marketing tool set up to publish information on the Web rather than weighing down the postman with direct mail.

The advantage of this marketing tool is that it can react to users who hit your Web site by capturing information about them from the Site Server logs. There's also a nice add-on called Cross Sell which lets you tell customers about interesting special offers they might be interested in, based on their current or previous buying patterns (see figures 2 and 3).

There's an example Ad Server site that hosts adverts from sample businesses. It's worth visiting to get an idea of how you can set up and manage ad campaigns.

Step 2: Getting money in

Having got the suckers, sorry, valued customers into the shop the next thing you need is a successful transaction. The Commerce Server can handle two types of transactions – either Business to Business using Commerce Interchange Pipeline (CIP) or Business to Consumer using the Order Processing Pipeline (OPP). CIP allows your commerce server to talk to an existing Electronic Data Interchange (EDI) server. If you already conduct electronic business with other business partners then you should have some form of EDI connection (see figures 4 and 5). The CIP allows you to integrate EDI functions into your site, but you'll have to start hacking around with Microsoft's Component Object Model (COM). Unfortunately, to do this you'll need to be a pretty good C++ programmer.

Step 3: The procedures

The OPP breaks down into two distinct sets of business procedures. The Plan pipeline takes you through each step of providing information, initiating an order, checking an order, adding products to the total order and calculating tax. The Purchase pipeline then takes this information to carry out a complete transaction. Completing the purchase means that the customer must be using Microsoft Wallet (see figure 6).

The Wallet is also part of Internet Explorer 4 and Navigator and uses SSL security to pass credit card information to the Commerce Server. How the merchant processes the credit card information hasn't really been sorted out. Microsoft has published a set of APIs using COM, to allow third parties to build in links to other protocols such as SET. But for the moment

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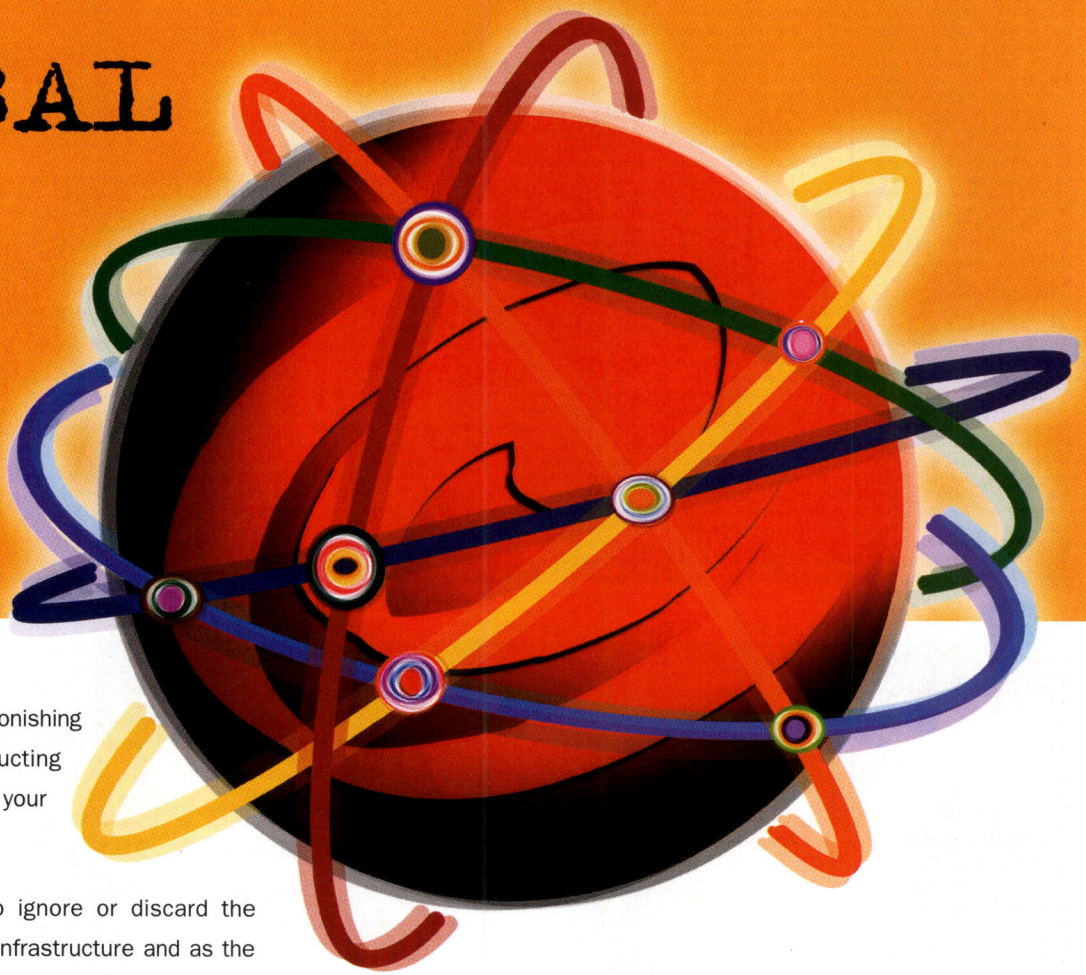

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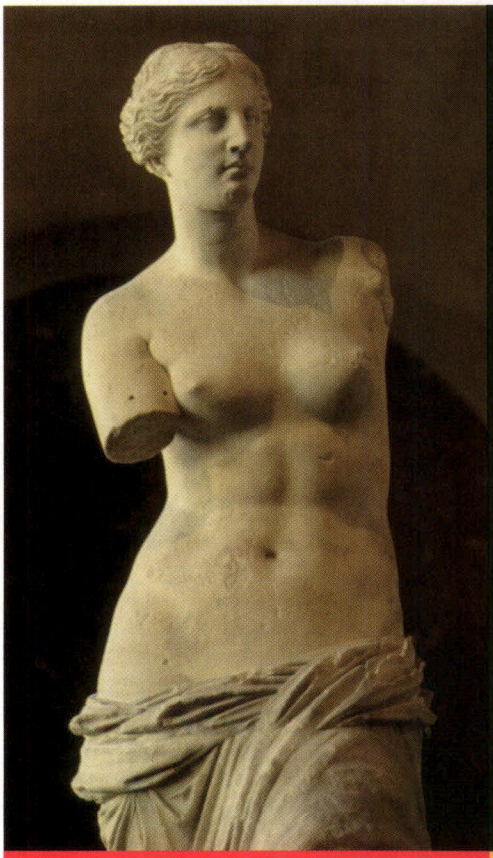

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Of course the system still relies on the interoperability of the two financial institutions involved, so a transaction can only be made if the buyer and the merchant both use banks that have agreed to use Ecash.

A more simple approach is used by the Millicent method. This was developed by Digital to facilitate the purchase of very small value items such as a Java applet or a small piece of information such as a financial forecast. In this scheme the customer buys 'scrips' from a broker that can be built up to form a value which represents real money. When a purchase is made, part of the scrip is passed to the merchant, who also builds up scrip values and then cashes them in with the broker.

In this scheme there's little or no security going on because it's thought that the effort and costs required to decode the scrip transaction would be far greater than the value of the scrip, which would be set at something like 0.01¢.

While these e-money initiatives are still in their early stages, there's no doubt that they do have several advantages, not least in the way they by-pass the complications of shoe-horning Web commerce systems into existing credit and debit card clearing schemes. So again, watch their development closely, as they could end up offering significant cost savings in terms of setting up a route to payment.

www.digicash.com
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it seems you're going to have to process the transaction yourself by talking to your existing credit card agency.

It's not going to be easy

There's lots there to get to grips with but as with most of Microsoft's products there's plenty of examples to investigate. This is the good news. The bad news is that when you take a look at one of the example sites you'll start to realise just how much work is involved in creating your site from scratch.

For a start, the Commerce Server, like the Site Server isn't a development tool. It's really an applications server tied at the front end to a Web server and to a database at the back end (see the Web databases article in the December 97 issue of Internet Magazine) for more details on how Microsoft Web servers connect to databases). This means you have to use other tools to create a Web site that fits into this Microsoft framework. Because the Commerce Server relies on Active Server Pages this means using Microsoft FrontPage to build your site. Having seen the examples you'll probably also start to realise that an e-commerce site is really two sites. One site faces the customer. The other is for the shop manager, allowing him to carry out tasks like adding new goods, changing prices, scheduling delivers and so on (see picture below).

How far you go with this back-office Web site depends on whose who will administer your site. If they're not the developers (which is unlikely unless you're a very small business) then it's going to have to be every bit as foolproof as the shop front.

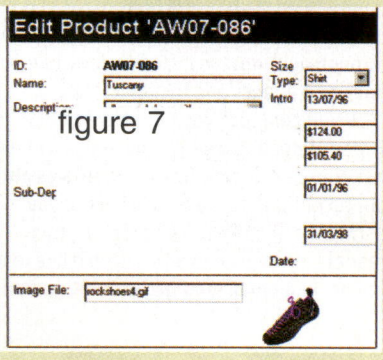
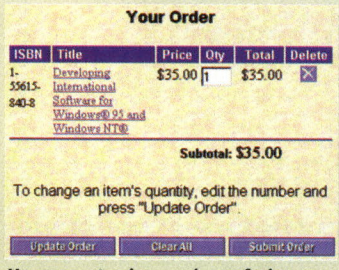


figure 7



You can customise your buyer-facing pages (left, above), but this process is often unconnected with the creation of the merchant facing pages

Nobody's perfect

The Commerce Server is as good as it gets for the time being. It does an excellent job of integrating the Web publishing part of an e-commerce site with the messier bits of bringing together stock management and payment schemes. But don't think it's a solution out of the box. You'll need to be clued up on database technology and you may have some difficult integration problems if you don't already use SQL Server. Even then you'll have to be quite committed to Microsoft's Web development route. It's also very much geared towards doing business in the US, something which will hopefully change in the final release. You will have to spend some time working out how you're going to connect the system to your chosen way of gathering an income.

While setting an exacting standard for Web commerce development, Microsoft isn't the only player in the field, and in the next few articles we'll consider some of the alternatives from organisations such as Netscape and Oracle.

Tim Rafferty (timbo@internet.emap.com) is a freelance writer and e-commerce consultant im

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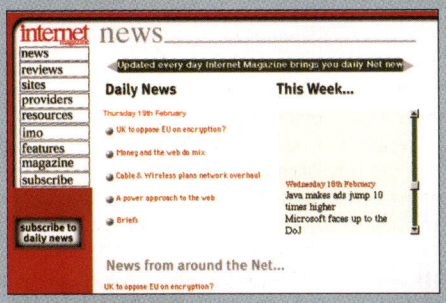

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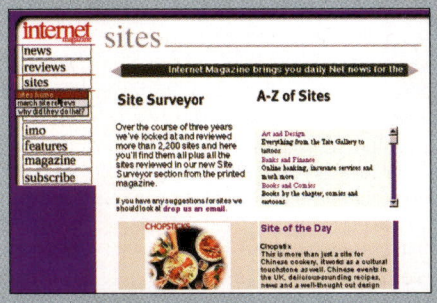

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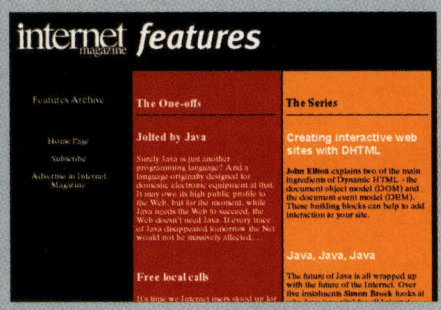

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Make your site dynamic with JavaScript

JavaScript can transform your site into a dynamically updating work of art by the addition of a few simple bits of code. Kathy Jinkings shows us how it's done

If you're expecting visitors to your site to come back regularly, you don't want the same old pages flashing up in the same sequence time and time again. With the help of a bit of JavaScript, you can introduce a random element Your readers need never quite see the same thing twice. This month I'll be showing you how to update your pages dynamically, and how to make information on your page appear in a different sequence every time someone visits. We'll combine all these simple bits of code to create a dynamically updating slideshow that plays in the corner of the screen.

The first thing you need to do is create a timeout, with the code shown in Figure 1. The object 'window' refers to your browser window, and this has lots of useful methods associated with it. The method shown here, setTimeout, tells the browser window to update itself after a specified period. Some methods are just called on their own, but the setTimeout method needs conditions to make it work, which JavaScript calls arguments.

Figure ONE

```
<BODY BACKGROUND="" BGCOLOR="#ffffff">
<CENTER>
<IMAGE SRC = libya1.jpg WIDTH = 300 HEIGHT = 239>
</CENTER>
<SCRIPT LANGUAGE=JavaScript>
window.setTimeout('location="minute_change2.html";',60000);
</SCRIPT>
</BODY>
```

Figure TWO

```
function myfunction(x,y,z)
{           <Your code goes here>
            return a;}
```

Figure THREE

```
function random(max)
{ today=new Date();
  hour=today.getHours();
  min=today.getMinutes();
  sec=today.getSeconds();
  return(((sec) % max)+1);}
```

Figure FOUR

```
function setuparray(num)
{     this.length = num;
      for (loop=1; loop <= num; loop++);
      {     this[loop]=0; }
      return this;}
```

Arguments

Arguments are extra instructions added to the code to tell it precisely what you want it to do. Arguments are enclosed in round brackets and separated by commas. For setTimeout we need two arguments – what to do when the time has elapsed, and how long to wait. The first argument is enclosed in quotes and is a complete JavaScript instruction. The second is just a number.

In the example shown in Figure 1, the browser waits 60,000 thousandths of a second (or a minute, in plain language) and then does whatever we told it to do in the first argument. In this example, it'll load the page minute_change2.html, which is the second part of our slideshow. You can use this code to present as long a sequence of pages as you want. All you have to do is include the 'window.setTimeout' code in each page to make it change to the next page in the sequence.

An ever-changing site

Regular visitors to your site could get bored if information wasalways presented in the same sequence. This is where the random function comes in. It lets you change the sequence of pages so your site looks different every time it's visited. You can use a method that's already been defined, or you can create your own, called a function, and use it in the same way. Functions make your code easier to read, and if you need to do the same thing repeatedly on your page, you won't need to keep retyping the code. You can call the function you've defined as often as you like. It's easy to define a function – see Figure 2.

Like the method setTimeout, your function can include arguments – as many or as few as you want. The function shown in Figure 2 has three: x, y and z. You can also make your function return a value to the main code – this function will return a value for the variable 'a'.

Figure 3 shows a function you can use to get a random number. The function is called, along with an argument stating the highest random number you want returned. It uses the date methods we discussed last month to come up with a number and return it. Of course, it's not really random. If you called the function at precisely the same time every day it would always return the same number. But since your visitors are unlikely to time their visits to the same second each day, the results appear random.

Creating an array

To make the number useful, you need to make each number reference a page in your slideshow. Arrays are a neat way of associating numbers with other information, such as page URLs. An array is like a filing cabinet in code. Each folder is referred to by a number, and inside the folder is the piece of information you've stored there.

But before you can use an array, you have to create it. The next function, shown in Figure 4, sets up a blank array with 'num' number of folders in it, and returns the array itself.

The 'for' instruction saves you a lot of typing. It sets the value of 'loop' to one, and then repeats. If the value of 'loop' is less than or equal to the value

of 'num', it performs 'this[loop]=0', adds one to the value of loop, and does it again. When the value of 'loop' is more than the value of 'num', the instruction stops.

Once you've created an array, you need to fill it up with useful information. This one is going to store the pictures we want to show, so we might call the function and fill the array using the code shown in Figure 5.

Using the code

The Slideshow code in the box below can be adapted in lots of ways to keep your Web pages looking new and interesting without having to completely recode your site. You could try changing the code to play a random selection of background music, or you could use the random numbers and arrays to add a 'link roulette' to your page, where the surfer is taken to a different link

Figure FIVE

```
slideshow = new setuparray(5);
slideshow[1]="libya1.jpg";
slideshow[2]="libya2.jpg";
slideshow[3]="libya3.jpg";
slideshow[4]="libya4.jpg";
slideshow[5]="libya5.jpg";
```

JavaScript syntax

JavaScript is easy to write, once you understand a few basic rules. You'll see examples of all the things discussed here in the code in the main article. Firstly, upper and lower case letters are important. If you set up a variable MyDate and later try to display mydate, you'll get an error message. You must refer to predefined objects and properties, as well as your own functions and variables, in exactly the same way as they were created.

You'll have noticed lots of squiggly brackets in the code examples. These group code together. For example, if you define a function, all the code for that function must be enclosed in squiggly brackets. If you leave a bit outside, either you'll get an error message or it won't work properly. You might want to group lines of code for other purposes too. For example, a simple 'if' statement doesn't need any brackets:

```
if (a=b) document.writeln("The variables are the same");
```

However, you might want to execute several statements when the condition is true, and you can do this by enclosing them in brackets. For example:

```
if (a=b)
{ c=c+2;
  MyDate = new Date();
  document.writeln("The variables are the same");}
```

Here, all these statements will only be executed if a is the same as b. Be careful not to mix up the squiggly brackets for grouping code, the round brackets for enclosing arguments, and the square brackets for indicating the element numbers of arrays.

Although all your code will be clear to you when you write it, it might not make so much sense when you come back to edit it in a few months' time. It'll be easier for you to remember what it does if you include comment lines. Anything that you enclose between /* and */ is treated as a comment – the browser just ignores those lines.

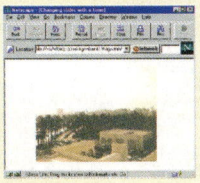
Usually, when you want to indicate a string, you enclose it in double quotes, for example:

```
location = "newpage.htm";
```

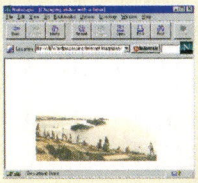
Sometimes, though, you might also want to enclose the whole statement. In the setTimeout function, we needed to express the whole command as an argument. If you used two sets of double quotes, this would confuse the browser, as it wouldn't know where the string started and finished. To get round this, you can use single quotes as well, to enclose a string that already includes double quotes. Therefore if the command above was to be used as an argument for setTimeout, you could express it as:

```
setTimeout('location = "newpage.htm"',60000);
```

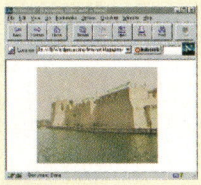
Once you've mastered these few simple rules, coding in JavaScript is quick and easy.



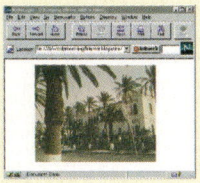
Slideshow 1



Slideshow 2



Slideshow 3



Slideshow 4

Slideshow 5

Playing your slideshow

Here's how to create the page that shows the slideshow. This time, the page calls itself rather than a different page. But each time it's called, it generates a different random number and the page reloads showing the picture that goes with that number. The slideshow only has five pictures, so they'll repeat quite a bit. The bigger the array and selection of random numbers, the more likely it is that a surfer will see a completely different selection of pictures.

The slideshow code

```
<HEAD>
<TITLE>Random slideshow</TITLE>
<SCRIPT Language=JavaScript>
/* Create an array */
function setuparray(num)
{    this.length = num;
     for (loop=1; loop <= num; loop++);
     {    this[loop]=0;}
     return this;}
/* Get a random number */
function random(max)
{ today=new Date();
  hour=today.getHours();
  min=today.getMinutes();
  sec=today.getSeconds();
  return(((sec) % max)+1);}
function display()
{    picturenum=random(5);

window.setTimeout('location="minute_change3.html"',
20010);
     document.writeln('<CENTER><IMG
SRC='+slideshow[picturenum]+' WIDTH=300
HEIGHT=239></CENTER>');
}
</SCRIPT>
</HEAD>
<BODY BACKGROUND="" BGCOLOR="#ffffff">
<SCRIPT LANGUAGE=JavaScript>
/* Create an array to store addresses of pictures */
slideshow = new setuparray(5);
slideshow[1]="libya1.jpg";
slideshow[2]="libya2.jpg";
slideshow[3]="libya3.jpg";
slideshow[4]="libya4.jpg";
slideshow[5]="libya5.jpg";
display();
</SCRIPT>
</BODY>
</HTML>
```

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whenever the page is called. If you want to try a framed site, remember that you can create a frame that's zero columns and rows wide. You could make an invisible frame like this to run a page that controls lots of different changing sections in other frames, such as a show involving pictures, text and sounds. You can either display elements that are all associated, or call the random function several times and have independent slideshows updating at the same time.

This slideshow not only displays the photographs in the first frame, but also uses the parent object to display a suitable caption in the 'text' frame. When you're using frames, the parent object refers to the whole window, and each frame is a property of the parent. When we used document .writeln() before, we wanted to display the text in the same page. By referring to the document as a property of the frame, which is in turn a property of the parent, we can address and update any of the frames. The syntax for parent.frame .document.writeln() is just the same – remember to substitute the name of your frame in the command. You must have named your frames when you set them up – if you don't give them a name, you won't be able to reference them easily. im

The glass front of the Emirates Bank is a familiar landmark in Dubai

Although a desert country, careful maintenance ensures Dubai city is always full of

The Arabian Gulf is a rich source of food fish

Passage across the 'Creek' is by tiny passenger boats which ply back and forth

Some pf the pictures used in the slideshow (see The finishing touches)

The finishing touches

We've got a slideshow, but visitors still have to wait for each picture to load before moving on to the next page. By wrapping it all up in frames, you can let the user surf other, mainly text, pages while still being able to see the show. To do this, you need to set up your frames first. This is ordinary HTML code. The example shown sets up three frames – two for the slideshow, and one for text, which could include hyperlinks to let the user surf around the site.

The code to add those vital finishing touches

```
<FRAMESET COLS=300,* BORDER=0
FRAMEBORDER=0>
<FRAMESET ROWS=225,* BORDER=0
FRAMEBORDER=0>
<FRAME SRC=slideshow1.html
MARGINWIDTH=0
MARGINHEIGHT=0
NAME=picture
SCROLLING=NO>
<FRAME SRC=null.html
MARGINWIDTH=0
MARGINHEIGHT=0
NAME=text
SCROLLING=NO>
</FRAMESET>
<FRAME SRC=slideshow2.html
MARGINWIDTH=0
MARGINHEIGHT=0
NAME=main>
</FRAMESET>
```

The frame 'picture' will run the code that displays the slideshow. This page will also control the information that appears in the frame 'text'. Notice we've instructed the text frame to initially load a page called null. This is a blank page, but if you don't load a page there won't be a document showing in that frame and you won't be able to use the JavaScript document methods. The frame 'main' can be used to load any page of your site you like, so your readers can continue surfing there. This code includes a slightly different way of getting random numbers.

```
<HEAD>
<TITLE>A framed slideshow</TITLE>
<SCRIPT Language=JavaScript>
/* Create an array */
function setuparray(num)
{    this.length = num;
     for (loop=1; loop <= num; loop++);
     {    this[loop]=0; }
     return this;}
/* Get a random number */
function random(max)
{    num=0;
     while (num<1 | |num>max) num=0
+ parseInt(Math.random() * max);
     return(num);}
function display()
     /* Get a random number */
{    picturenum=0;
     while(slideshow[picturenum]==null)
picturenum=random(5);
     window.setTimeout('location=
"slideshow1.html"',20010);
     /* Display the picture in the array
at the position indicated by the random
number */
     parent.text.document.clear();
     parent.text.document.writeln
('<H2><BR>'+slidetext[picturenum]+
'<BR></H2>');
     document.writeln('<CENTER><IMG
SRC='+slideshow[picturenum]+'WIDTH=
300 HEIGHT=225></CENTER>');
}
</SCRIPT>
</HEAD>
<BODY BACKGROUND="" 
BGCOLOR="#ffffff">
<SCRIPT LANGUAGE=JavaScript>
/* Create an array to store addresses of
pictures */
slideshow = new setuparray(5);
slidetext = new setuparray(5);
/* Load the array with the picture
addresses */
slideshow[1]="emiratesbank.jpg";
slideshow[2]="duskboats.jpg";
slideshow[3]="flowers.jpg";
slideshow[4]="fishmarket.jpg";
slideshow[5]="fishroundabout.jpg";
/* Load the text */
slidetext[1]="The glass front of the
Emirates Bank is a familiar landmark in
Dubai";
slidetext[2]="Passage across the 'Creek'
is by tiny passenger boats which ply
back and forth until late at night";
slidetext[3]="Although a desert country,
careful maintenance ensures Dubai city
is always full of flowers";
slidetext[4]="The Arabian Gulf is a rich
source of food fish";
slidetext[5]="The fish roundabout is a
well known landmark, celebrating the
rich food supply of the Gulf";
display();
</SCRIPT>
</BODY>
</HTML>
```

All the JavaScript code we've looked at previously has been between the <BODY> and </BODY> HTML tags. You'll notice that in the page above the functions are all inside the <HEAD> section. This keeps the function code out of the way and makes the code clearer. You have to keep the bits of code that actually invoke the functions inside the BODY tags, otherwise the browser won't realise it's supposed to run them.

Coming up...

- In next month's Javascript Web Professional, we'll be taking you through how to use at using forms written in JavaScript on your Web site.
- We'll show you the benefits of Javascript forms, including append and validation techniques. We'll have a walk-through on page sequences and we'll also show you how to create a simple calculator for your site using simple maths sequences.
- Finally, we'll show you how to make a Windows-style navigation menu, and also look at how to expand on your Javascript skills with more advanced techniques.

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How to create a distinctive online brand	1070
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How to get online ads to work on your site	**1101**
56K – the shocking truth	1078
Internet Explorer 4.0 – the shocking truth	1090
AOL v CompuServe v LineOne v MSN	1086
How to get a job in the Internet industry	1087
Service provider of the year	1091
What you should know about your ISP contract	1092
How to deal with junk mail	1099
63 ways to make the Net go faster	1100
How to create an award winning site	**1104**
Web site building	
Using ActiveX on your Web site	1031
Guide to using CGI on your site (part 1)	1039
Guide to using CGI on your site (part 2)	1044
Using CGI to get more information on visitors to your site	1048
Using CGI to get feedback from visitors to your site	1052
Using cookies on your site	1040
How to create cookies	1045
How to get images onto your site	1053
How to add chat features to your site	1050
Structuring your Web site	1012
Using graphics on your site	1018
Getting your site online	1024
Getting more traffic to your site	1034
Creating a newsgroup	1035
Enhancing your site	1041
20 ways to make money from your Web site	1046
How to use animation on your Web site	1047
How to add frames to your site	1051
How to add tables to your site	1054
How to create an active Web site	1055
Getting to grips with Java	1057
The essential guide to putting your business online (part 1)	1056
How to write basic Java applets	1062
How to use threads in Java	1066
How to use graphics in a Java applet	1068
How to write an interface for your Java applet	1075
How to use JavaScript on your site	**1102**
How to create active Web pages using Visual Studio	1060
How to get the best deal on ISDN and leased line connections	1061
How to create the perfect feedback form	1064
How to host your own Web site	1065
How to keep visitors coming back to your site	1074
How to get your legacy database onto the Web	1075
How to pick which company should provide your database	1079
How to activate your Web database	1084
How to use Java to link databases to your Web site	1088
How to build a Web database	1093
Fine tuning your Web database	1098
How to create faster, smaller graphics	1076
How to add a search engine to your site	1077
How to keep your site up to date	1094
The expert's guide to Dynamic HTML (part 1)	1080
How to use Dynamic HTML to add interaction to your site	1089
How to use Netscape's version of Dynamic HTML	1095
Writing Dynamic HTML that works	1096
How to create the perfect feedback mechanism for your site	1081
A guide to free email services	1082
How to audit the traffic coming to your site	1083
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Choosing a search engine for your site	1097
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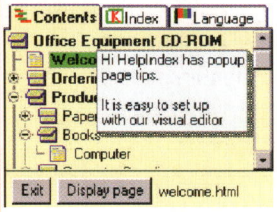

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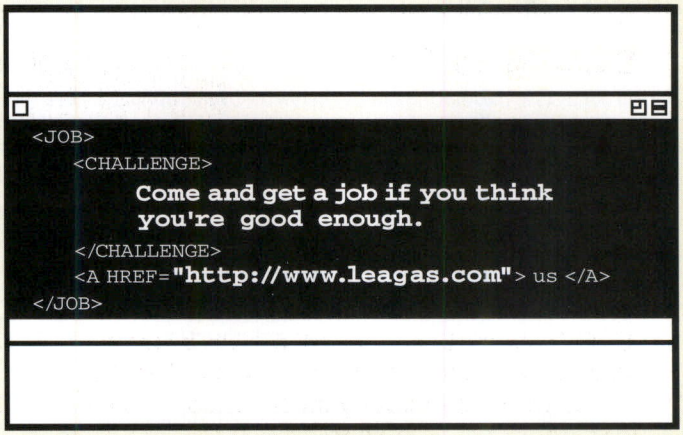

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The *Internet Magazine* ISP Lab tests put UK's top service providers through a rigorous set of performance tests. Find out how your provider scored in our exclusive tests. Turn to page 152 to find out which ISP wins our award for most consistent performance over the last six months

Choosing an ISP is a tricky business. One of the few areas of differentiation is performance. Every month *Internet Magazine* tests the performance of over 100 service providers. We check out their availability by tracking the busy tones we get when we try to connect. Once we're connected, we test out Web speeds by timing how quickly we can download a selection of Web pages.

These tests are run repeatedly over a period of three weeks. This means we get a good indication of the ISP's perfomance over the test period.

And the winner is...

This month's winner is Netcom Internet. A disappointing 50th place last month (caused by a combination of its 94 per cent availability rating and a poor Web speed) seems to have been something of a blip. The company is now back in top place, having been third in our tests in the March issue.

But it's still tight at the top, with only three quarters of a second separating the first and second places. In fact, there's only one and a third seconds between the top 10 providers in this month's tests, and just over five seconds separating the top 30 providers.

It's a dog eat dog world out there.

Storming back into third place, after several months spent in the lower reaches of our charts, is the Wye Valley-based service provider, WyeNet. The company came top in the tests in our November and December 1997 issues. "Our backbone provider has been having problems recently," says Richard Coker of WyeNet. "We're not the only ISP whose performance has been suffering. Anyway, it all seems to be working now and we're planning to upgrade our bandwidth shortly. We'll probably look at getting a connection to another backbone to make our service more reliable."

Netcom Internet

UUNET continues its strong run, with a highly credible seventh place. As you might expect from one of the largest ISPs in the UK, its service has been consistent over the past few months, even if it hasn't always been the fastest.

Last month's winner, NetDirect falls to 31st place, largely thanks to a rather disappointing availability rating of 90.78 per cent, 4 per cent below the overall average for this month's providers. The average Web speed was down too, at just under 18 seconds (well below the average figure of around 23 seconds).

It's all Microsoft's fault...

It's not uncommon for people to blame Microsoft for all sorts of things these days. Internet Business claims the software giant was partly to blame for its disappointing figures this month (dropping from ninth to 42nd place with an availability rating of 89.74 per cent and a Web speed of 19.26 seconds). "Microsoft made our Ireland Today site [at **www.irelandtoday.ie**] Site of the Day on St Patrick's Day," says Paul Gregg of Internet Business. "Our bandwidth usage ran at 100 per cent for the full 24 hours Microsoft gave us zero warning, or we would have arranged a temporary bandwidth upgrade. Microsoft's email said to expect 10,000 visitors. At the end of the day we'd had over 23,000. In fact, we clocked up almost half a million hits on the site in just 24 hours."

This sudden surge of traffic in such a short time goes some way to explain Internet Business's below par performance this month.

This month's averages

The average availability this month is 94.85 per cent, up on last month's figure of 93.92 per cent. The overall average Web speed was 22.41 seconds, with an average for the four Web sites tested of 39.02, 13.53, 21.44 and 15.62 seconds.

As usual, the Web pages tested were chosen because they don't change. We have to make sure we're testing the same page each time. For details on the four Web pages tested, see page 151.

Newcomers

Our tests continue to expand, with four newcomers this month: DIALNet, UK2Net, WINNet and Computalynx. All these providers offer full UK coverage.

Errors and corrections

For the past few months, we've been printing the results for Entanet. The service we've been testing is, in fact, the service offered by AIC Entanet, one of their resellers. Our apologies for any confusion caused, and we'll be testing Entanet's own service from next month.

We'd also like to point out that Get Surfed!, which we've been listing as an ISP, is in fact a CyberCafé run by MetroNet, which offers a dial-up service. Again, we apologise for any confusion.

We need you!

If you work for an ISP that would like to be included in our tests, or have any suggestions for the tests, please contact Richard Baguley at **richardb@internet.emap.com**

Points to remember

Although our tests provide a comprehensive overview of the performance of ISPs, there are a few points you should bear in mind when using the tests to choose a service provider. Our tests are designed to test the quality and speed of the infrastructure of ISPs – we don't test their software, technical support, pricing or other aspects of the service they offer. We tested these factors in our ISP of the Year feature in the December 97 issue. You can get hold of this article from our Faxback service. See page 136 for details.

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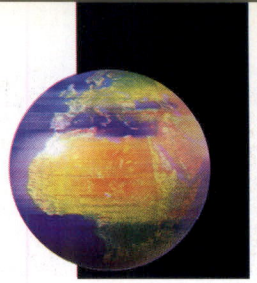

This month's best-performing ISPs, as tested in *Internet Magazine*'s labs

This month	Last month	Provider	Telephone	Availability (per age)	Average Web speed (secs)	JPL Average	Janet Averagr	Apple Average	OECD Average
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2	69	CableNet	(01424) 830 700	97.30	14.67	26.54	6.11	14.08	11.94
3	57	WyeNet Internet services	(01989) 762 476	100.00	15.15	30.79	6.19	13.92	9.71
4	14	Cable Internet	(0500) 541 542	95.00	14.59	28.64	7.56	12.44	9.72
5	8	Primex	(01908) 643 597	95.65	14.71	30.00	5.70	13.48	9.65
6	42	Nildram	(0800) 072 0460	94.87	14.66	28.27	5.73	14.22	10.41
7	4	UUNET (Pipex Dial)	(0500) 474 739	97.73	15.55	30.26	7.62	12.58	11.75
8	17	Freedom To Surf	(0181) 881 2111	97.78	15.67	34.57	5.63	11.84	10.64
9	25	CIX	(0845) 355 5050	95.00	15.26	31.85	6.26	13.24	9.70
10	5	SAQ Network Services	(0800) 801 514	96.32	15.51	31.72	6.52	14.69	9.10
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17	52	REDNET	(01494) 511 640	92.25	16.00	33.52	6.05	14.38	10.06
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25	15	Intonet	(0181) 941 9195	98.48	18.54	39.20	8.99	13.96	12.01
26	11	I-Way	(0171) 734 5734	99.24	18.69	32.58	11.88	13.42	16.89
27	3	Internet Central	(01270) 611 000	100.00	18.91	43.19	6.59	14.44	11.41
28	38	NTL/Enablis	(0800) 607 608	100.00	18.93	31.15	9.24	15.76	19.56
29	79	LineOne	(0345) 777 464	100.00	19.22	37.32	11.24	16.83	11.51
30	27	The Web Factory	(0171) 637 0310	100.00	19.26	39.44	6.27	15.16	16.16
31	40	BT Internet	(0800) 800 001	100.00	19.29	36.29	11.55	13.58	15.73
32	N/A	UK2Net	(01372) 844 644	100.00	19.62	33.09	8.09	14.94	22.37
33	19	Power Internet	(01908) 605 188	97.06	19.10	33.06	11.61	17.36	14.36
34	1	NetDirect Internet	(0181) 305 5000	90.78	17.95	37.97	7.98	14.78	11.09
35	72	Telinco Internet Services	(0800) 542 4343	91.67	18.15	31.85	10.06	14.81	15.88
36	73	Andover On-Line	(01264) 334 822	96.88	19.92	31.55	12.32	18.50	17.29
37	84	Cerbernet	(0171) 360 8000	100.00	20.56	38.65	12.16	12.86	18.57
38	53	WSS Internet Access	(01793) 420 764	97.44	20.49	36.75	9.15	15.48	20.58
39	21	Which? Online	(0645) 830 240	100.00	21.07	32.14	9.23	14.54	28.37
40	41	Direct Net @ccess	(01232) 201 555	98.52	20.84	42.14	7.16	20.16	13.90
41	85	Web Plus	(0345) 932 758	92.91	19.77	40.65	9.62	14.56	14.27
42	9	The Internet Business	(01232) 424 190	89.74	19.26	33.97	11.38	14.00	17.70
43	45	Onyx Internet	(0345) 715 715	100.00	21.50	39.67	10.10	20.03	16.22
44	74	UK Online	(01749) 333 333	92.50	20.05	36.59	10.84	19.97	12.78
45	26	Virgin Net	(0500) 558 800	97.30	21.10	30.89	11.77	23.08	18.66
46	63	TriNET	(01539) 731 000	97.14	21.11	45.35	7.24	19.03	12.82
47	39	Enterprise	(01624) 677 666	90.21	19.68	33.47	13.94	13.97	17.35
48	66	Pinnacle Internet	(01293) 613 686	96.30	21.05	39.78	9.35	18.33	16.73
49	76	Cyber ware	(01733) 765 005	94.87	20.78	37.68	11.62	15.57	18.27
50	68	U-Net	(01925) 484 444	99.22	22.04	33.78	19.00	20.61	14.76
51	48	Wave Rider Internet plc	(0121) 603 3888	94.74	21.06	36.71	15.11	14.00	18.42
52	37	Datanet	(01252) 810 081	100.00	22.24	45.15	8.59	22.97	12.26
53	67	Frontier Internet Services	(0171) 536 9090	97.67	22.35	37.52	23.36	14.98	13.56

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provider lab tests

This month's best-performing ISPs, as tested in *Internet Magazine*'s labs

This month	Last month	Provider	Telephone	Availability (per age)	Average Web speed (secs)	JPL Average	Janet Averagr	Apple Average	OECD Average
54	30	Direct Connection	(0800) 072 0000	100.00	23.07	38.66	8.83	30.80	14.00
55	91	SoftProg NET	(0181) 788 0656	100.00	23.09	42.62	11.20	25.89	12.64
56	59	Pipemedia OnLine	(01455) 828 218	79.20	18.31	38.99	9.78	12.49	11.98
57	28	Madhouse Net	(0800) 074 8283	97.06	22.49	34.35	7.24	19.03	29.31
58	31	Abel Internet	(0131) 445 5555	86.75	20.11	31.80	12.91	18.93	16.79
59	56	Thames Global Internet services	(01344) 641 627	95.68	22.20	43.82	12.11	19.25	13.61
60	70	Paradise Internet	(01256) 414 863	100.00	23.21	35.85	17.76	21.91	17.29
61	22	NewNet Ltd	(07000) 639 638	97.37	22.71	32.39	10.81	32.11	15.54
62	60	Prestel Online	(0990) 223 300	96.06	22.43	49.59	6.56	23.14	10.42
63	82	Poptel	(0171) 923 9465	92.65	21.73	43.17	8.29	21.23	14.23
64	62	Newbury Internet	(01635) 569 123	97.22	23.00	30.77	7.79	38.62	14.82
65	34	Demon Internet	(0181) 371 1234	93.43	22.16	43.33	11.93	16.98	16.39
66	49	Vossnet	(01753) 737 800	96.27	22.89	40.06	10.00	22.16	19.34
67	75	Chester Internet	(01244) 341 418	97.22	23.39	36.62	13.34	23.21	20.41
68	32	Pavilion Internet	(01273) 607 072	96.99	23.36	45.06	8.91	25.71	13.74
69	6	WebLeciester	(0116) 223 0070	100.00	24.20	53.64	6.28	25.86	11.03
70	20	Cable & Wireless	(0500) 200 980	100.00	24.47	49.84	8.32	26.79	12.95
71	44	Global Internet	(0870) 909 8041	92.31	22.70	42.05	9.95	23.01	15.82
72	46	Inter@lpha	(01703) 363 200	88.89	21.93	33.84	7.87	31.48	14.52
73	89	ClaraNet	(0171) 903 3000	100.00	24.76	41.23	10.13	34.62	13.07
74	93	AIC ENTANET	(01279) 865 290	100.00	24.87	45.05	17.11	25.13	12.18
75	87	Easynet	(0541) 594 321	97.44	24.41	42.82	13.45	21.42	19.95
76	23	Netkonect	(0171) 345 7777	98.21	24.61	40.63	5.93	41.90	9.96
77	54	Total Connectivity Providers	(01703) 571 300	92.11	23.18	31.79	8.77	36.66	15.51
78	86	1st Solution	(01344) 752 444	100.00	25.22	38.95	15.22	23.73	23.00
79	78	Internet Discovery	(0181) 694 2240	99.24	25.06	57.98	7.84	22.29	12.13
80	16	Force 9	(0800) 073 7800	94.81	24.48	40.44	19.58	19.88	18.02
81	61	AngliaNet	(01473) 211 922	92.86	24.06	42.21	10.80	31.35	11.90
82	47	Northants Computer Centre	(01604) 22539	97.30	25.23	42.78	16.53	19.57	22.03
83	77	LondonWeb Communications	(0800) 026 8306	96.55	25.43	38.86	9.33	41.04	12.50
84	80	Net Matters	(0345) 573 377	100.00	26.38	31.60	11.97	44.20	17.74
85	92	INTERact	(01753) 776 699	94.29	25.17	49.38	12.06	23.39	15.88
86	33	WorldWide Web Services	(01784) 898 800	80.00	21.52	26.94	10.68	33.03	15.42
87	88	Surflink	(0181) 903 2777	97.37	26.30	38.41	21.27	21.92	23.59
88	55	AAP Internet	(0181) 427 1166	100.00	27.09	46.72	6.08	44.11	11.45
89	29	Internet for Business	(01224) 333 300	97.22	26.79	36.46	10.17	45.34	15.20
90	90	CYBERphile Internet	(01543) 454 840	100.00	28.03	50.12	12.04	27.88	22.09
91	94	FreeDotNet	(0181) 568 3377	100.00	28.08	34.09	42.83	13.42	22.00
92	24	Legend Internet	(01274) 743 500	100.00	28.12	46.70	7.41	46.42	11.94
93	81	Aviator's Network	(01727) 868 468	92.11	27.34	42.20	14.77	22.23	30.14
94	N/A	WinNET Communications	(0181) 930 6688	90.00	26.74	51.86	9.19	24.22	21.67
95	N/A	Computalynx	(01604) 231 437	75.00	22.87	34.03	7.06	35.50	14.88
96	58	PowerNet	(0500) 011 501	73.33	24.53	49.29	6.92	22.92	19.00
97	83	Baynet Interet	(01222) 256 401	87.60	29.64	55.23	8.56	41.30	13.48
98	96	Avel Internet	(01237) 425 100	51.40	19.68	34.98	7.30	25.43	11.00
99	99	Kencomp Internet	(01539) 722 559	68.63	29.64	46.56	10.31	44.03	17.67
100	98	Zoo Internet	(0345) 326 326	94.59	40.95	47.46	51.18	22.32	42.85
101	97	First Net Services	(0113) 294 4224	60.42	30.89	42.12	20.84	42.04	18.56
102	100	Internet UK	(01827) 711 722	100.00	126.25	142.00	300.00	14.00	49.00

How the performance tests work

The *Internet Magazine* provider Lab tests are designed to give you information on the speed and availability of Internet service providers. Every month, our testing system accesses each of the ISPs on the list many times. Our system repeatedly checks:

- The availability of the ISPs. How easy is it to make the connection? How often their modems are engaged?
- The speed of the connection. How long do a number of popular Web pages take to download?

The Web pages we use for the speed tests change every month. This month we've tested four new sites. First up are two sites in the States, a NASA site at **www.jpl.nasa.gov** and a static page on the Apple site at **www.apple.com/about**.

We're also hitting a UK site – it's the main page for the academic network JANET at **www.ja.net.** Finally, we're testing a site in Europe at **www.oecd.org/about**. These pages give a good idea of the general speed of Web access through the ISP's network and also allow us to test their international bandwidth. We run these tests repeatedly, 24 hours a day. The results are then processed to give the average figures shown above.

To rank the ISPs, we calculate the geometric mean of the availability and average Web performance. This figure is used to rank the ISPs in order of overall performance. The two results are given equal weighting, so a provider with a below average availability but an above average Web speed could come higher than one with 100 per cent availability but slower Web access speeds. The tests for this month ran between 3 March and 23 March 1998.

provider lab tests

How the ISPs performed over the last six months

Find out how your service provider has done in our unique chart...

	Provider	Phone	URL		Provider	Phone	URL
1	SAQ Network Services	(0800) 801 514	www.saqnet.co.uk	40	Direct Net @ccess	(01232) 201 555	www.d-n-a.net
2	UUNET (Pipex Dial)	(0500) 474 739	www.uk.uu.net	41	U-Net	(01925) 484 444	www.u-net.net
3	I-Way	(0171) 734 5734	www.i-way.co.uk	42	Enterprise	(01624) 677 666	www.enterprise.net
4	Netcom Internet	(01344) 395 600	www.netcom.net.uk	43	Chester Internet	(01244) 341 418	www.chesternet.co.uk
5	Primex	(01908) 643 597	www.primex.co.uk	44	LineOne	(0345) 777 464	www.LineOne.net
6	Nildram	(0800) 072 0460	www.nildram.net	45	Cerbernet	(0171) 360 8000	www.cerbernet.co.uk
7	NTL Internet / ENABLIS	(0800) 607 608	www.ntli.com	46	Thames Global	(01344) 641 627	www.tgis.co.uk
8	WyeNet Internet services	(01989) 762 476	www.wyenet.co.uk	47	Northants Computer Centre	(01604) 22539	www.nccnet.co.uk
9	Sonnet Internet	(0171) 891 2000	www.sonnet.co.uk	48	London Web Comms	(0800) 026 8306	www.londonweb.net
10	Technocom	(01753) 714 200	www.technocom.net	49	Mistral Internet	(01273) 747 432	www.mistral.co.uk
11	Netkonect	(0171) 345 7777	www.netkonect.nco.uk	50	HiWay	(01635) 573 300	www.hiway.co.uk
12	ProWeb	(0500) 636 343	www.proweb.co.uk	51	Easynet	(0541) 594 321	www.easynet.co.uk
13	Cable Internet	(0500) 541 542	www.cableinet.co.uk	52	TriNET	(01539) 731 000	www.trinetimb.com
14	REDNET	(01494) 511 640	www.red.net	53	Cable & Wireless Internet	(0500) 200 980	www.cwcom.co.uk
15	CIX	(0845) 355 5050	www.cix.net.uk	54	Pinnacle Internet	(01293) 613 686	www.pncl.co.uk
16	Oxford CommUnity Internet	(01865) 856 000	www.community.co.uk	55	Prestel Online	(0990) 223 300	www.prestel.co.uk
17	Virgin Net	(0500) 558 800	www.virgin.net	56	SoftProg NET	(0181) 788 0656	www.softprog.net
18	Global Internet	(0870) 909 8041	www.global.net.uk	57	Poptel	(0171) 923 9465	www.poptel.org.uk
19	Maidenet	(01628) 825 757	www.maidenet.co.uk	58	Inter@lpha	(01703) 363 200	www.interalpha.net
20	WSS Internet Access	(01793) 420 764	www.WSkiSoft.co.uk	59	Aviator's Network	(01727) 868 468	www.avnet.co.uk
21	The Internet Business	(01232) 424 190	www.tibus.net	60	Internet for Business	(01224) 333 300	www.wintermute.co.uk
22	Pipemedia OnLine	(01455) 828 218	www.pipemedia.co.uk	61	MetroNet	(0800) 074 1881	www.metronet.co.uk
23	Power Internet	(01908) 605 188	www.powernet.co.uk	62	Baynet Internet	(01222) 256 401	www.baynet.co.uk
24	CompuServe	(0990) 000 200	www.compuserve.com	63	Legend Internet	(01274) 743 500	www.legend.co.uk
25	Demon Internet	(0181) 371 1234	www.demon.net	64	Web Plus	(0345) 932 758	www.webplus.co.uk
26	Vossnet	(01753) 737 800	www.vossnet.co.uk	65	ENTANET	(0500) 368 263	www.enta.net
27	Onyx Internet	(0345) 715 715	www.onyxnet.co.uk	66	Surflink	(0181) 903 2777	www.surflink.co.uk
28	Intonet	(0181) 941 9195	www.intonet.co.uk	67	AAP Internet	(0181) 427 1166	www.aapi.co.uk
29	Force 9	(0800) 073 7800	www.force9.net	68	Internet Discovery	(0181) 694 2240	www.idiscover.co.uk
30	Eclipse Networking	(01392) 202 345	www.eclipse.co.uk	69	Abel Internet	(0131) 445 5555	www.abel.net.uk
31	Internet Central	(01270) 611 000	www.netcentral.co.uk	70	ClaraNet	(0171) 903 3000	www.clara.net
32	Andover On-Line	(01264) 334 822	www.andover.co.uk	71	CYBERphile Internet	(01543) 454 840	www.cyberphile.co.uk
33	NetDirect Internet	(0181) 305 5000	www.ndirect.co.uk	72	Zoo Internet	(0345) 326 326	www.zoo.co.uk
34	Pavilion Internet	(01273) 607 072	www.pavilion.co.uk	73	INTERact	(01753) 776 699	www.uv.net
35	Newbury Internet	(01635) 569 123	www.newbury.net	74	Cyber ware	(01733) 765 005	www.cyberware.co.uk
36	Paradise Internet	(01256) 414 863	www.pins.co.uk	75	AngliaNet	(01473) 211 922	www.anglianet.co.uk/anglianet
37	Datanet	(01252) 810 081	www.data.net.uk	76	Avel Internet	(01237) 425 100	www.avel.co.uk
38	BT Internet	(0800) 800 001	www.btinternet.com	77	Kencomp Internet	(01539) 722 559	www.kencomp.net
39	Frontier Internet Services	(0171) 536 9090	www.ftech.co.uk	78	Internet UK	(01827) 711 722	www.zipmail.co.uk

Top performers over the last six months

As well as our normal tests, every month we produce a table showing how the ISPs have performed over the past six months. We're all after consistency in our service provider's performance, so it's important to check out these figures before you make your choice of ISP.

This table is created from the figures produced over the last six months. We take the data for availability and Web access speed for the past six months' tests (including this month's) and produce an overall average for both sets of figures. These averages are then used to produce an overall rating. Only those service providers that have been in our tests throughout the past six months are included here. This month 78 providers qualify.

And the winner is...

It's all change at the top, with SAQ Network Services taking the coveted number one spot. Although SAQ hasn't come top of our monthly tests for some time, its performance over the past few months has been consistently good (fifth in the April issue, 16th in March and 20th in February).

It's the consistency of performance that's all-important. While a provider may do well one month, it doesn't necessarily mean they can maintain that quality of performance over a six-month period.

UUNET takes second place, giving SAQ a real run for its money – only a few tenths of a second and a couple of percentage points separate the two. And the other services providers in our top 10 aren't much further behind. Look out for some jostling for position in next month's six-month results

Small guys do good

A newcomer to the six-month tests is WyeNet, who won our monthly tests two months running in our November and December 1997 issues. The ISP comes in at a creditable eight place, ahead of many of the bigger providers.

Apologies

WyeNet were missed out of last month's table due to an administrative error. Our apologies to them for any confusion.

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pick a prov

The most up to date information is vital when you're choosing from the hundreds of Internet service providers. You'll find no better guide than our Pick a Provider section over the following five pages

Spring fever

ISPs are in the mood for spring cleaning it seems. FireNet has been reborn as VAS-NET. The new email address is **sales@vas-net.net**. Global Internet has a new phone number, (0870) 909 8041, as does NetDirect Internet, it's now on (0181) 305 5000. And if you need to phone Genesis Project try (01232) 572 000.

Finally, Which? On-Line can now answer your telephone calls 24 hours a day. Its email address is **support@which.net**

Free Net access

Edging in on the crowded ISP market is X-Stream Network. It has a unique selling point – you don't have to pay any monthly ISP costs. Sounds too good to be true doesn't it? X-Stream plans to sustain the business by selling advertising banners.

Unsurprisingly, within a few days the service had 1,000 signed-up subscribers. X-Stream is hoping for 65,000 sign ups by the end of the year. So if you're willing to put up with being bombarding by advertisments give it a go. **www.x-stream.com**

New service providers

Other new ISPs entering the fray this month are EntNet (**www.entertainers.net/dialup.htm**) and Wavenet (**www.wavenet.co.uk**). A new service, based in Oxford, is also launching at the end of April. UniNet will use the Planet Online backbone.

Nationwide Building Society is also going to become a service provider. Watch out for a launch in the summer when Nationwide customers will be able to access online banking services. **www.nationwide.co.uk**

Nildram Online has beefed up its bandwidth with a new link to the US, on a freephone number (0800) 072 0460 and a new connection to LYNX. **www.nildram.net**

Meanwhile, REDNET hops on the 56K access speed bandwagon. It now supports K56flex. **www.red.net**

Net research

Prestel On-line has been out and about with a clipboard. A survey of its dial-up customers in February found that 27 per cent of its users are female. It seems the conventional view of a Net populated by blokes and geeks is no longer true. The research also showed that men visit more educational sites than sport, humour and music sites. At least that's what they told the researchers. **www.prestel.co.uk**

Missing

AOL mysteriously lost two and a half hours from its service in March. If you know where it is, contact AOL, it's looked everywhere for them. **www.uk.aol.com**

Subscribed to an ISP not mentioned here, or if you're an ISP with news to pass on please tell us: **providers@internet.emap.com**

How to choose an ISP

It's crucial to choose a service provider that gives you local call access to the Net. Most ISPs let you connect from anywhere on the mainland UK for the price of a local phone call. They use systems run by companies such as BT, Energis and Mercury, where the phone number starts 0345, 0645 or 0845.

The next step is to look at how the providers charge for their services. Most ISPs charge a flat fee for unlimited use of the Net. They assume the cost of the phone call will stop you staying online for too long. Some companies (such as AOL, MSN and CompuServe, which also provide their own content) charge for the time you're online. They have options that give you three hours or five hours online, for example. Once you exceed this figure you're charged at an hourly rate. This might be a cheaper option if you only use the Net occasionally, but it's easy to spend longer online than you think, so make sure the charges don't rack up. It's also possible to get a cut-price email-only account from companies such as FreeDotNet.

Out into the big wide Internet

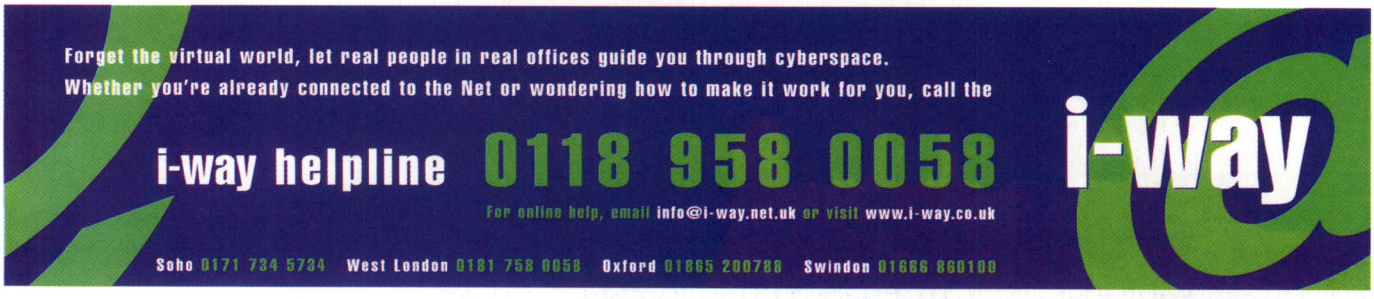
Another crucial consideration is your ISP's connection to the rest of the Internet. If its connections are small and clogged, you can expect slow Web access, email that takes a long time to be delivered and many other problems. We run regular tests of service providers to find the fastest. See page 148 for more details.

Supporting the customer

Technical support is a vital part of the service. This month, we've added the hours they are available to our listings. Make sure you can get support during the times you're actually going to be using the service. Don't be afraid to ask for the technical support number before you sign up and give it a ring, armed with a tricky question you've prepared earlier.

You should also check that your service provider is a member of the ISPA (Internet Service Providers Association). The ISPA was set up to establish a code of practice for service providers. Among other factors, the code encourages self-regulation for ISPs. What's more if you have a complaint about your service provider you can always take it to the ISPA. **www.ispa.org.uk**

● Once you've signed up, you can test your email account by sending an email to **newuser@internet.emap.com**



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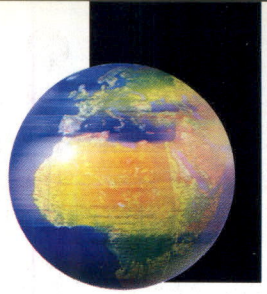

The most comprehensive listing of UK Internet service providers

Name	Phone	Email	Web page	Technical support	Cost (pm)	Backbone
Online Service Providers (you have to pay for content)						
AOL	(0800) 279 1234	queryuk@aol.com	www.uk.aol.com	7.45-10.30 Mon-Fri / 9.00-17.30 Sat	from £4.95	AOL
CompuServe	(0990) 000 200	70006.101@compuserve.com	www.compuserve.com	8.00-midnight every day	from £6.50	CompuServe
LineOne	(0345) 777 464	enquiries@LineOne.net	www.LineOne.net	8.00-22.00 Mon-Sat / 10.00-22.00 Sun	from £9.95	BTnet
MSN	(0345) 002 000	ukweb@microsoft-contact.co.uk	www.uk.msn.com	24 hours a day	from £4.95	UUNET
Which? On-line	(0645) 830 240	support@which.net	www.which.net	24 hours a day	£14.75	NTL Internet
Business providers (those that provide leased line and ISDN access only)						
1st Solution Internet	(01344) 752 444	sales@1st-solution.net	www.1st-solution.net	9.00-18.30 Mon-Fri	ISDN / LLO	GX Networks
ACE	(01670) 528 204	info@ace.co.uk	www.ace.co.uk	9.00-17.00 Mon-Fri	ISDN / LLO	Planet
Apple Centre Warrington	(01925) 444 499	sales@applecentre.com	www.applecentre.com	9.00-17.30 Mon-Fri	ISDN / LLO	Wisper
BusinessNet	(0171) 390 9933	sales@business.net.uk	www.business.net.uk	24 hours a day	ISDN / LLO	BusinessNet
Cerbernet	(0171) 360 8000	sales@cerbernet.co.uk	www.cerbernet.co.uk	9.00-18.00 Mon-Fri / pager Sat-Sun	ISDN / LLO	Wisper
COLT	(0171) 390 9099	info@colt.net	www.colt.net	24 hours a day	LLO	COLT Internet
Data Link Internet	(01522) 681 100	sales@data-link.net	www.data-link.net	9.00-17.00 Mon-Fri	ISDN / LLO	BTnet
ElectricMail	(01223) 501 333	info@elmail.co.uk	www.elmail.co.uk	9.00-17.00 Mon-Fri	ISDN / LLO	GX Networks
Epinet	(01242) 821 000	info@epinet.co.uk	www.epinet.co.uk	9.00-17.00 Mon-Fri	ISDN / LLO	GX Networks / Energis
Genesis Project	(01232) 572 000	sales@gpl.net	www.gpl.net	9.00-20.00 every day	ISDN/LLO	NTL Internet
GX Networks	(0181) 957 1250	sales@gxn.net	www.gxn.net	9.00-18.00 Mon-Fri	LLO	GX Networks
I-Way Soho	(0171) 734 5734	sales@soho.i-way.net.uk	www.i-way.co.uk	8.00-18.30 Mon-Fri	ISDN / LLO	VBCnet / UUNET / PSInet
Impact Web Publishing	(01628) 522 099	nikki@impactwp.com	www.impactwp.com	9.00-18.00 Mon-Fri / email anytime	LLO	GX Networks
Internet Central	(01270) 611 000	sales@netcentral.co.uk	www.netcentral.co.uk	9.00-18.00 Mon-Sat	ISDN / LLO	Cable Internet / ISPC
Internet for Business	(01224) 333 300	info@wintermute.co.uk	www.wintermute.co.uk	9.00-18.00 Mon-Fri	ISDN / LLO	Wisper
Internet Network Services	(0800) 467 638	info@insnet.net	www.insnet.net	24 hours a day	ISDN / LLO	Internet Network Services
Internet Solutions for Business	(0800) 731 8460	sales@is4b.net	www.business-solutions.net	24 hours a day	ISDN / LLO	BTnet / PSInet
iQ Internet	(01273) 327 088	sales@iql.co.uk	www.iql.co.uk	9.00-17.30 Mon-Fri	ISDN / LLO	Planet
ISPC	(01628) 639 595	barryr@ispc.net	www.ispc.net	9.00-17.00 Mon-Fri	ISDN / LLO	Cable Internet / ISPC
Mainstream Technology	(0345) 626 177	sales@mainstream.u-net.com	none	9.00-21.00 Mon-Fri / 9.00-17.00 Sat	ISDN	U-Net
Mannet	(01624) 623 841	postmaster@mcb.net	www.mcb.net	9.00-17.30 Mon-Fri	ISDN / LLO	BTnet
Mitoo	(0171) 209 1515	sales@mitoo.co.uk	www.mitoo.co.uk/	9.00-17.30 Mon-Fri	ISDN / LLO	BTnet
NACAMAR	(01438) 715 100	info@nacamar.net uk	www.nacamar.co.uk	24 hours a day	LLO	NACAMAR
NetForce Group	(01245) 257 788	sales@netforce.net	www.netforce.net	9.00-17.00 Mon-Fri	ISDN / LLO	Wisper / BTnet
Nettec	(0171) 460 0500	info@nettec.co.uk	www.nettec.co.uk	9.00-17.00 Mon-Fri	ISDN / LLO	GX Networks
NORWEB.net	(0800) 195 0196	sales@norwebcomms.com	www.norwebcomms.com	24 hours a day	ISDN / LLO	The Web Factory
NTL Internet / ENABLIS	(0800) 607 608	sales@ntli.com	www.ntli.com	24 hours a day	ISDN / LLO	NTL Internet
Planet Online	(0113) 234 5566	info@theplanet.uk	www.theplanet.net	24 hours a day	ISDN / LLO	Planet Online
PlusNet Technologies	(0800) 073 7370	sales@plus.net.uk	www.plus.net.uk	24 hours a day	ISDN / LLO	PlusNet
Quza	(0800) 528 0000	info@quza.com	www.quza.com	24 hours a day	ISDN / LLO	Quza
REDNET	(01494) 511 640	info@red.net	www.red.net	9.00-17.30 Mon-Fri	ISDN / LLO	INS
Relay Business Systems	(0345) 369 999	enquiries@relay.co.uk	www.relay.co.uk	24 hours a day	ISDN / LLO	BTnet
Small Planet	(0171) 515 9889	admin@smallplanet.co.uk	www.smallplanet.co.uk	10.00-18.00 Mon-Fri	ISDN / LLO	BTnet
Smartways Internet	(01604) 670 500	info@smartways.com	www.smartways.com	9.00-18.00 Mon-Fri	ISDN / LLO	Wisper
Star Internet	(01285) 647 022	info@star.co.uk	www.star.co.uk	8.30-19.00 Mon-Fri	ISDN / LLO	BTnet / Wisper
Technocom	(01753) 714 200	isales@technocom.net	www.technocom.net	9.00-17.30 Mon-Fri	ISDN / LLO	Technocom
The Education Exchange (EDEX)	(0181) 296 9201	info@edex.net.uk	www.edex.net.uk	8.00-19.00 Mon-Fri	ISDN / LLO	INS
UK Internet Provider	(01772) 908 000	internet@provider.co.uk	www.provider.co.uk	9.00-17.00 Mon-Fri	ISDN / LLO	Cable Internet / ISPC
VAS-NET	(01732) 865 555	sales@vas-net.net	www.vas-net.net	8.00-20.00 every day	ISDN / LLO	VAS-NET
VBCnet	(0117) 929 1316	sales@vbc.net	www.vbc.net	24 hours a day	ISDN / LLO	VBCnet
Web Plus	(0345) 932 758	sales@webplus.co.uk	www.webplus.co.uk	9.00-21.00 Mon-Fri / till 20.00 Sat-Sun	ISDN / LLO	Web Ltd / BTnet
Wisper	(0171) 432 0324	sales@wisper.net	www.wisper.net	9.00-17.00 Mon-Fri	LLO	Wisper
WydeWorld	(01232) 238 250	info@wydeworld.com	www.wydeworld.com	8.30-21.00 Mon-Fri	ISDN / LLO	NTL Internet
Zynet	(01392) 209 500	sales@zynet.net	www.zynet.co.uk	9.00-18.00 Mon-Sat	ISDN / LLO	GX Networks
Full UK coverage						
AAP Internet	(0181) 427 1166	sales@aapi.co.uk	www.aapi.co.uk	10.00-20.00 Mon-Fri / 14.00-18.00 w/e	£12.91*	Netkonect
Abel Internet	(0131) 445 5555	info@abel.co.uk	www.abel.net.uk	9.00-23.00 every day	£8.81*	Quza / Racal
ACGNET	(0171) 377 9114	sales@acgnet.co.uk	www.acgnet.co.uk	9.00-18.00 Mon-Fri	£11.81*	Nildram
AIC	(01279) 865 290	aic@aic.co.uk	www.aic.co.uk/entanet	9.00-17.00 Mon-Sat	£8.81*	VBCnet
Airtime Internet Resources	(01254) 676 921	sales@airtime.co.uk	www.airtime.co.uk	9.00-17.00 Mon-Fri	£15.27*	UUNET
Albatross	(01603) 442 233	enquiries@albatross.co.uk	www.albatross.co.uk	9.00-19.30 Mon-Fri	£11.74*	BTnet
Argo Interactive	(0500) 585 586	info@argonet.co.uk	www.argonet.co.uk	10.00-17.00 Mon-Sat	£11.75*	UUNET
Astra Internet	(0800) 018 2001	sales@astra.co.uk	www.astra.co.uk	9.00-17.00 Mon-Fri/ 9.00-12.00 Sat	£12.93*	GX Networks
Atlas	(0171) 312 0400	info@atlas.co.uk	www.atlas.co.uk	24 hours a day	£14.10*	UUNET
Aviators Network	(01727) 868 468	info@avnet.co.uk	www.avnet.co.uk	24 hour callback	£11.75*	PSInet
Baynet	(01222) 256 401	enq@baynet.co.uk	www.baynet.co.uk	8.00-18.00 Mon-Fri / 9.00-17.30 Sat	£12	Netkonect
Beacon Internet Services	(01749) 831 056	sales@thebeacon.co.uk	www.n-e-t.co.uk/beacon/	8.00-18.00 Mon-Fri	£11.75*	NetOnline
Boots Internet	(01462) 743 112	support@boots.com	www.boots.com	9.00-22.00 Mon-Fri	£12.75	VBCnet
BT Internet	(0800) 800 001	support@btinternet.com.	www.btinternet.com	24 hours a day	£11.75*	BTnet
Cable and Wireless Internet	(0500) 200 980	support@mcmail.com	www.cwcom.co.uk	24 hours a day	£10*	Cable and Wireless

If you work for a provider that's not listed here, send the details to: providers@internet.emap.com

Key: LLO – leased line only ISDN/LLO – ISDN & leased line only * – inc VAT

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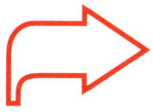
The most comprehensive listing of UK Internet service providers

Name	Phone	Email	Web page	Technical support	Cost (pm)	Backbone
Full UK coverage						
Cable Internet	(0500) 541 542	sales@cableinet.co.uk	www.cableinet.co.uk	9.00-21.00 every day	£11.75*	Cable Internet
Cable Online	(0800) 506 506	info@cableol.co.uk	www.cableol.net	24 hours a day	£11.75*	NTL Internet
CableNet	(01424) 830 700	info@cablenet.net.	www.cablenet.net/cablenet	24 hours a day	£11.69*	VBCnet
Castle.Net	(0181) 477 5623	sales@castle.net.uk	www.castle.net.uk	6.00-21.00 Mon-Fri / email Sat-Sun	£8.81*	Technocom
CIX	(0845) 355 5050	sales@cix.net.uk	www.cix.net.uk	9.00-0.00 Mon-Fri / 10.00-18.00 Sat	£17.61*	BTnet
ClaraNET	(0171) 903 3000	sales@clara.net	www.clara.net	24 hours a day	£11.63*	Netkonect
Cocoon Internet Services	(0171) 373 8461	admin@cocoon.co.uk	www.cocoon.co.uk	8.00-20.00 Mon-Fri / 10.00-19.00 w/e	£17.62*	UUNET
Colloquium	(0500) 008 543	sales@colloquium.co.uk	www.colloquium.co.uk	24 hours a day	£14.10*	UUNET
CPD Online	(0181) 446 7890	sales@cpd.co.uk	www.cyberspace.cpd.co.uk	9.00-18.00 Mon-Fri	£11.75*	Nildram
CYBERphile Internet	(01543) 454 840	info@cyberphile.co.uk	www.cyberphile.co.uk	8.30-18.30 Mon-Fri	£11.75*	Xara
Cyberscape	(01253) 724 000	glenn@cyberscape.net	www.cyberscape.net	10.00-18.00 Mon-Fri	£12	Cable Internet / ISPC
Datanet	(01252) 810 081	info@data.net.uk	www.data.net.uk	24 hours a day	£17.62*	Planet Online
Demon	(0181) 371 1234	sales@demon.net	www.demon.net	24 hours a day	£11.75*	Demon
DIALnet	(0800) 881 881	sales@dialnet.com	www.dialnet.com	24 hours a day	£11.75*	Cable Internet
Direct Connection	(0800) 072 0000	sales@dircon.net	www.dircon.net	9.00-21.00 Mon-Fri / 10 -3 Sat-Sun	£13.50*	Direct Connection
Direct Net @ccess	(01232) 201 555	info@d-n-a.net	www.d-n-a.net	9.00-18.00 Mon-Fri / 9.30-17.30 Sat	£7.50	GX Networks / Cable Internet
Easynet	(0541) 594 321	sales@easynet.net	www.easynet.co.uk	24 hours a day	£11.99*	Easynet / BTnet
EDI	(01539) 731 000	info@edi.co.uk	www.edi.co.uk	9.00-17.30 Mon-Sat	£15	Planet Online
ENTANET	(0500) 368 263	info@enta.net	www.enta.net	9.00-21.00 every day	£10.58*	Cable and Wireless
Enterprise	(01624) 677 666	sales@enterprise.net	www.enterprise.net	9.00-22.00 Mon-Fri / 10.00-16-00 w/e	£9.40*	BTnet
EntNet	(0800) 525 470	sales@entertainers.net	www.entertainers.net/dialup.htm	9.00-21.00 Mon-Fri / 9-2 Sat	£10*	Telinco
Farebase	(01322) 280 011	Info@farebase.co.uk	www.farebase.net	7.00-19.00 Mon-Fri / 1000-15-00 w/e	£16.45*	Easynet
Force 9	(0800) 073 7800	sales@force9.net	www.force9.net	7.00-23.00 every day	£9.99*	Force 9
Freedom to Surf	(0181) 881 2111	sales@freedom2surf.net	www.freedom2surf.net	9.30-17.30 Mon-Fri	£11.75*	Freedom to Surf
FreeDotNet	(0181) 568 3377	info@thefree.net	www.thefree.net	9.00-17.00 Mon-Fri / email anytime	from £1.25*	Worldcom
Frontier Internet Services	(0171) 536 9090	info@ftech.net	www.ftech.co.uk	9.00-19.00 Mon-Fri / noon-18.00 Sat	£11.75*	GX Networks / Wisper
Global Internet	(0870) 909 8041	info@global.net.uk	www.global.net.uk	9.00-21.00 Mon-Fri/ 1000-18-00 w/e	£11.75*	BTnet / GX Networks
Globewide Internet Services	(0161) 953 4018	info@globewide.com	www.globewide.com	10.00-22.00 Mon-Fri	£10*	BTnet / Wisper
GreenNet	(0171) 713 1941	support@gn.apc.org	www.gn.apc.org	10.00-18.00 Mon-Fri	£15.86*	UUNET
Hi-Net	(0181) 532 6532	internet@higrade.com	www.hi-net.co.uk	24 hours a day	£11.75*	Planet Online
Hiway	(01635) 573 300	info@hiway.co.uk	www.hiway.co.uk	8.30-18.00 Mon-Fri / email Sat-Sun	£14.69*	GX Networks / Wisper
IBM Global Services	(0990) 426 426	globalnetwork@uk.ibm.com	www.ibm.net/	9.00-17.00 Mon-Fri	£17.62*	IBM Global Network
Infotrade	(0800) 226 600	enquiries@infotrade.co.uk	www.infotrade.co.uk	10.00-20.00 Mon-Fri / 10-2Sat	£69.88* pa	BTnet
Internet Discovery	(0181) 694 2240	sales@idiscover.co.uk	www.idiscover.co.uk	9.00-21.00 Mon-Sat	£15*	UUNET / VBCnet
Internet UK	(01827) 711 722	sales@zipmail.co.uk	www.zipmail.co.uk	9.00-17.30 Mon-Sat	£11.75*	Wisper
Intonet	(0181) 941 9195	info@intonet.co.uk	www.intonet.co.uk	8.00-20.00 Mon-Sat	£11.75*	BTnet
K Web	(0500) 751 111	info@helpdesk.k-web.co.uk	www.k-web.co.uk	24 hours a day	£11.69*	Planet Online
Karoo	(01482) 602 742	info@karoo.net	www.karoo.net	24 hours a day	£9.79*	Planet Online
London Web Communications	(0800) 026 8306	internet@londonweb.net	www.londonweb.net	9.00-21.00 Mon-Sat / pager Sun	£14.68*	Netkonect
MacLine	(0181) 401 1111	orders@macline.co.uk	www.macline.co.uk	9.00-18.00 Mon-Fri	£14.10*	Atlas
Madhouse Net	(0800) 074 8283	info@madhouse.uk.com	www.madhouse.uk.com	8.00-20.00 Mon-Fri	£11.75*	NACAMAR
Mercia Internet	(01827) 69166	sales@mercia.net	www.mercia.net	9.00-17.30 Mon-Fri	£11.50*	Netkonect
Mistral Internet	(01273) 747 432	info@mistral.co.uk	www.mistral.co.uk	9.30-18.00 Mon-Fri / 10.00-16.00 Sat	£14.04*	BTnet
Moonlight	(01276) 856 868	sales@moon-light.co.uk	www.moon-light.co.uk	9.00-18.00 Mon-Fri	£14.95*	Cable Internet
Net Online	(0171) 447 7447	sales@nol.co.uk	www.nol.co.uk	9.00-20.00 every day	£11.75*	Global One / Quza
Netcom Internet	(01344) 395 600	info@netcomuk.co.uk	www.netcom.net.uk	24 hours a day	£14.95*	Netcom
NetDirect Internet	(0181) 305 5000	info@ndirect.co.uk	www.ndirect.co.uk	9.00-21.00 Mon-Fri / 9-3 Sat-Sun	£14.09*	BTnet
Netkonect	(0171) 345 7777	info@netkonect.net	www.netkonect.nco.uk	9.00-18.00 Mon-Fri / 9.00-13.00 Sat	£11.75*	Netkonect
NetMatters	(0345) 573 377	info@netmatters.co.uk	www.netmatters.co.uk	8.00-20.00 Mon-Fri	£11.75*	Wisper / VBCnet
Newbury Internet	(01635) 569 123	sales.enq@newbury.net	www.newbury.net	24 hours a day	£11.75*	Aspen
NewNet	(07000) 639 638	sales@newnet.co.uk	www.newnet.co.uk/home	9.00-22.00 every day	£9.74*	Wisper / VBC
Nildram	(0800) 072 0460	sales@nildram.co.uk	www.nildram.net	9.00-23.00 every day	from £5	Nildram
On-Line Entertainment	(0181) 558 6114	sysop@on-line.co.uk	www.on-line.co.uk	9.30-17.30 Mon-Fri	£15* pq	ANS
Onyx	(0345) 715 715	sales@onyxnet.co.uk	www.onyxnet.co.uk	8.30-18.00 Mon-Fri	£11.75*	Onyx
Oxford CommUnity Internet	(01865) 856 000	sales@community.co.uk	www.community.co.uk	9.00-18.00 Mon-Fri	£42pq*	Onyx
Paston Chase	(01603) 502 061	sales@paston.co.uk	www.paston.co.uk	24 hours a day	£11.75*	UUNET
Pinnacle Internet	(01293) 613 686	info@pncl.co.uk	www.pncl.co.uk	9.00-19.00 Mon-Fri	£14.50	UUNET
Pipemedia OnLine	(01455) 828 218	sales@pipemedia.net	www.pipemedia.co.uk	24 hours a day	£11.75*	VBCnet
@pobox	(0990) 168 160	info@pobox.co.uk	www.pobox.co.uk	9.00-20.00 Mon-Fri	£15.00	INSnet
Poptel	(0171) 923 9465	info@poptel.net	www.poptel.org.uk	9.30-18.00 Mon-Fri	£11.75*	GX Networks
Power Internet	(01908) 605 188	info@powernet.co.uk	www.powernet.co.uk	24 hours a day	£14.10*	BTnet
Prestel Online	(0990) 223 300	enquiry@netsales.prestel.co.uk	www.prestel.co.uk	24 hours a day	£10.56*	Planet Online
Primex	(01908) 643 597	info@alpha.primex.co.uk	www.primex.co.uk	8.00-21.00 every day	£11.75*	On-Net / Netkonect
Pro-Net Internet Services	(0181) 200 3565	sales@pro-net.co.uk	www.pro-net.co.uk	9.00-18.00 Mon-Fri / 9.00-16.00 Sat	£99 pa	Cable Internet / ISPC
ProWeb	(0500) 636 343	sales@proweb.co.uk	www.proweb.co.uk	10.00-19.00 Mon-Fri / 9.00-13.00 Sat	£11	Cable Internet
PSI Net UK	(01223) 577 577	sales@uk.psi.com	www.uk.psi.com	9.00-21.00 Mon-Fri / 9.00-18.00 Sat	£9.95	PSI Net
Research Machines	(01235) 826 868	sales@rmplc.co.uk	www.rmplc.co.uk	9.00-21.00 Mon-Fri	£12.50	GX Networks / Wisper
Round One Communications	(01237) 425 100	info@rom.net	www.rom.net	9.00-18.00 Mon-Fri	£12	UUNET / GX Networks
RSC Internet	(01224) 585 113	info@rsc.co.uk	www.rsc.co.uk	9.00-18.00 Mon-Sat	£9.99*	BTnet
SAQ Network Services	(0800) 801 514	sales@saqnet.co.uk	www.saqnet.co.uk	24 hours a day	£12.50*	BTnet / C&W / INS
Scotland Online	(0845) 270 0027	admin@sol.co.uk	www.scotland.net	24 hours a day	£11.75*	Sprint
Sonnet Internet	(0171) 891 2000	enquire@sonnet.co.uk	www.sonnet.co.uk	9.00-21.00 Mon-Fri / 9.00-18.00 Sat	£14.68*	BusinessNet
SOS Internet	(01271) 321 145	sosi@sosi.net	www.sosi.net	9.00-17.30 Mon-Sat	£11.75*	Aspen

ignore@your.peril

in business today you have to communicate to accumulate . so we don't just give your company its own email address , we give everyone in it one too . and by making it all so easy , we've made ourselves europe's no.1 independent internet service provider . so call us on 0800 458 9666 . or scribble your name and address anywhere on this ad , tear it out and send it to us at freepost demon (yes , that's all you have to write) . we'll send you a free 30-day trial cd and brochure in the ignore at your peril envelope .



Demon Internet

more people get on with us

0800 458 9666

IM0005G

www.demon.net email : sales@demon.net

pick a provider

The most comprehensive listing of UK Internet service providers

Name	Phone	Email	Web page	Technical support	Cost (pm)	Backbone
Full UK coverage						
SurfAid	(0870) 907 1000	info@surfaid.org	www.surfaid.org.	9.00-21.00 Mon-Fri / 10-6 Sat-Sun	from £7.50	GX Networks
Surflink	(0181) 903 2777	info@surflink.co.uk	www.surflink.co.uk	9.00-17.00 Mon-Fri / 10.00-14.00 Sat	£9.39	BTnet
Telinco Internet Services	(0800) 542 4343	sales@telinco.net	www.telinco.net	9.00-21.00 Mon-Sat	£5*	Cable Internet / ISPC
The Internet Experience	(01480) 386 836	experience@intecc.co.uk	www.intecc.co.uk	9.00-19.30 Mon-Sat	£11.75*	Cerbernet / Wisper
The Network Group	(01293) 616 000	info@network-group.com	www.network-group.com	8.30-18.00 Mon-Fri	£15	UUNET
Time Internet	(01483) 860 606	office@time-technology.co.uk	www.time-technology.co.uk	8.30-18.00 Mon-Fri	£12.50	Aladdin
Timewarp Internet	(0161) 950 8855	sales@timewarp.co.uk	www.timewarp.co.uk	9.00-20.30 Mon-Fri	£8.25*	ISPC
TriNET	(01539) 731 000	dmacdonald@trinetimb.com	www.trinetimb.com	9.00-17.30 Mon-Fri	£11.75*	Planet Online
U-Net	(01925) 484 444	sales@u-net.net	www.u-net.net	8.00-10.00 Mon-Fri / 10.00-16.00 Sat / email at other times	£14.10*	U-Net
UK Online	(01749) 333 333	sales@ukonline.co.uk	www.ukonline.co.uk	24 hours a day	£9.99*	Easynet
UUNET (Pipex Dial)	(0500) 474 739	sales@dial.pipex.com	www.uk.uu.net	9.00-20.00 Mon-Fri / 10.00-18.00 Sat	£12.75	UUNET
Virgin Net	(0500) 558 800	advice@virgin.net	www.virgin.net	24 hours a day	£11.99*	NTL Internet
Wave Rider Internet	(0121) 603 3888	info@waverider.net.uk	www.waverider.co.uk	24 hours a day	£12*	VBCnet
Wavenet	(01253) 794 386	sales@wavenet.co.uk	www.wavenet.co.uk	10.00-18.00 Mon-Fri	£72py	BTnet
Webpro	(0181) 886 2424	info@webpro.net.uk	www.webpro.net.uk	24 hours a day	£12.50	Planet Online
Webscape	(01963) 370 800	webmaster@webscape.co.uk	www.webscape.org	24 hours a day	£15	GX Networks
WinNET Communications	(0181) 930 6688	sales@win-uk.net	www.win-uk.net/	9.30-18.00 Mon-Fri	£17.63*	UUNET
Wirenet Amiga	(01925) 496 482	sales@wirenet.co.uk	www.wirenet.co.uk	9.00-19.00 Mon-Fri / 9.00-13.00 Sat / email at other times	£14.25*	U-Net
WiSS	(01248) 602 405	enquiries@wiss.co.uk	www.wiss.co.uk	9.00-22.00 every day	£11.75*	Celtic Internet
Worldwide Web Services	(01784) 898 800	info@webs.co.uk	www.webs.co.uk	9.00-18.00 Mon-Fri	£17.62*	U-Net
Zetnet Services	(01595) 696 667	info@zetnet.co.uk	www.zetnet.co.uk	24 hours a day	£7.50*	BTnet / Wisper
Zoo Internet	(0345) 326 326	support@zoo.co.uk	www.zoo.co.uk	9.00-21.00 every day	£12.50*	Zoo Internet
Zulu Internet	(01494) 758 895	sales@zulu.co.u	www.zulu.co.uk	8.00-21.00 every day	from £5*	Nildram
East						
AngliaNet	(01473) 211 922	login@anglianet.co.uk	www.anglianet.co.uk/anglianet	8.00-21.00 Mon-Sat / 11.00-19.00 Sun	£11.75*	Wisper
Cyber Ware	(01733) 765 005	webmaster@cyberware.co.uk	www.cyberware.co.uk	9.00-midnight Mon-Fri	£9.99*	BTnet
Foobar Internet	(0116) 233 0033	sales@foobar.co.uk	www.foobar.co.uk	9.00-17.00 Mon-Fri	£11.75*	Netkonect
Ke-Connect Internet Services	(01449) 770 488	info@keme.net	www.keme.co.uk	9.00-21.00 Mon-Fri / 10-2 Sat-Sun	£11.75*	Wisper
Net Solutions Europe	(01255) 233 300	ScottC@nse.co.uk	www.nse.co.uk	9.00-17.00 Mon-Fri	£15	Technocom
RJT Internet Services	(01493) 857 048	postmaster@rjt.co.uk	www.rjt.co.uk	9.00-17.00 Mon-Sat	£7.99	BTnet
Ireland						
Creative Online Media	(01232) 370 124	john@globalgateway.com	www.globalgateway.com	8.30-17.30 Mon-Fri	£9.95	PSInet
Indigo	(00353) 1 604 6901	info@indigo.ie	www.indigo.ie	9.00-18.00 Mon-Fri	£11.75*	AT&T / BBN Planet
Ireland On-Line	(00353) 1 855 1739	sales@iol.ie	www.iol.ie	9.00-18.00 Mon-Fri	IR£10	UUNET
Telecom Internet	(00353) 1 269 22 22	sales@tinet.ie	www.tinet.ie	9.30-17.30 Mon-Fri	IR£12	Telecom Eireann
The Internet Business	(01232) 424 190	info@tibus.net	www.tibus.net	9.00-17.30 Mon-Fri	£8.81*	BTnet
Unite Solutions	(01232) 777 338	solutions@unite.co.uk	www.unite.co.uk	9.00-17.00 Mon-Fri	£12.50	BTnet
London and South East						
Adept	(01843) 850 444	sales@adept.co.uk	www.adept.co.uk	8.30-18.00 Mon-Fri	£11.75*	Netkonect
Alpha-Access	(01344) 750 505	office@alpha-access.co.uk	www.alpha-access.co.uk	9.00-17.30 Mon-Fri	£11.75*	Wisper
Amity Internet	(0500) 200 171	info@amity.co.uk	www.amity.co.uk	8.00-19.00 Mon-Fri	£11.63*	BTnet
Bogomip	(0181) 960 3050	info@mail.bogo.co.uk	www.bogo.co.uk	10.00-20.00 Mon-Fri / 10.00-17.00 w/e	£12	BTnet
CentreNet	(0800) 243 336	info@centre.net.uk	www.centre.net.uk	24 hours a day	£8.33*	BTnet
ComeNet Technology	(0181) 357 9111	sales@come.net.uk	www.come.net.uk	8.30-20.00 Mon-Fri	£35*pq	UUNET / VBCnet
Cygnet Internet Services	(0181) 880 4650	info@cygnet.co.uk	www.cygnet.co.uk	9.00-19.00 Mon-Fri	£8	UUNET
Dolphin Internet	(0181) 932 5000	info@dolphinet.co.uk	www.dolphinet.co.uk	24 hour pager service	£14.10*	BTnet
Exconet	(01268) 453 000	sales@exconet.co.uk	www.exconet.co.uk	9.00-22.00 Mon-Fri	£11.75*	Nildram
ExNet Systems	(0181) 296 5577	info@exnet.com	www.exnet.com	10.00-midnight Mon-Fri	£14.10*	VBCnet
FastNet International	(01273) 677 633	info@fastnet.co.uk	www.fastnet.co.uk	9.30-17.00 Mon-Fri	£30 pq	VBCnet
FlexNet	(01638) 711 550	info@flexnet.net	www.flexnet.co.uk	9.00-18.00 Mon-Fri	£11.75*	Netcom
I-Way Brentford	(0181) 758 0058	sales@brentford.i-way.net.uk	www.i-way.co.uk	8.00-18.30 Mon-Fri	£11.75*	VBCnet / UUNET / PSInet
I-Way Oxford	(01865) 200 788	sales@oxford.i-way.net.uk	www.i-way.co.uk/oxford	8.00-18.30 Mon-Fri	£30 pq	VBCnet / UUNET / PSInet
I-Way Reading	(0118) 958 0058	sales@i-way.net.uk	www.i-way.net.uk	8.00-18.30 Mon-Fri	£11.75*	VBCnet / UUNET / PSInet
INTERact	(01753) 776 699	special.offer@uv.net	www.uv.net	24 hours a day	£4.00*	Cable Internet / ISPC
KBnet	(01234) 271 900	sales@kbnet.co.uk	www.kbnet.co.uk	9.00-18.00 Mon-Sat	£12.93*	Cabletel
KDD Euro Web	(0800) 010 510	sales@kew.net	www.kew.net	9.00-17.00 Mon-Fri	£17.62*	Internet KDD
KENTnet Internet Services	(01622) 688 748	sales@kentnet.co.uk	www.kentnet.co.uk	9.00-21.00 Mon-Fri / 9.00-17.00 w/e	£10.50	BTnet
London Internet	(0171) 838 1199	s.ken1@dialin.net	www.london-internet.net	9.00-18.00 Mon-Sat	£11.75*	Aspen
Maidenet	(01628) 825 757	enquires@maidenet.co.uk	www.maidenet.co.uk	9.00-17.00 Mon-Fri	£15.00	BTnet
Mailbox Internet	(0171) 731 8558	info@mailbox.co.uk	www.mailbox.co.uk	9.30-18.00 Mon-Fri	£11.75*	BusinessNet / VBCnet
MetroNet	(0181) 426 4446	info@metronet.co.uk	www.metronet.co.uk	9.00-19.00 every day	£29.99pq	INS
Moose	(01923) 238 248	info@moose.co.uk	www.moose.co.uk	8.00-18.00 Mon-Fri	£11.75*	BTnet
Netmania	(0181) 252 1199	info@netmania.co.uk	www.netmania.co.uk	11.00-11.00 Mon-Fri	£42.50 pa	BTnet
Pavilion Internet	(01273) 607 072	info@pavilion.co.uk	www.pavilion.co.uk	24 hours a day	£12.55*	Easynet / BTnet
SoftProg NET	(0181) 788 0656	sales@softprog.co.uk	www.softprog.net	9.00-19.00 Mon-Fri	£14.10*	BTnet
Thames Global Internet Services	(01344) 641 627	info@tgis.co.uk	www.tgis.co.uk	9.00-21.00 every day	£9.99*	Cable Internet / ISPC
The Web Factory (London)	(0171) 637 0310	sales@weblondon.co.uk	www.weblondon.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
Vodanet	(01708) 863 043	ops.manager@dialin.net	www.vodanet.net	9.00-17.00 Mon-Fri	£12.99	Aspen
VossNet	(01753) 737 800	info@vossnet.co.uk	www.vossnet.co.uk	9.00-19.00 Mon-Fri / 10.00-15.00 Sat	£11.75*	Cable Internet / ISPC

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Midlands						
Brunel Internet	(01922) 598 90	sales@brunel.co.uk	www.brunel.co.uk	9.00-18.00 every day	£15*	BTnet
Discovery	(01203) 364 400	invent@discover.co.uk	www.discover.co.uk	8.30-17.00 Mon-Fri	£11.75*	Technocom
Fenetre	(01538) 398 298	sales@fenetre.co.uk	www.fenetre.co.uk	9.00-17.30 Mon-Fri	£9.40*	BTnet
GMTnet	(01509) 269 999	sales@gmtnet.co.uk	www.gmtnet.co.uk	9.00-17.30 Mon-Fri	£11.75*	BTnet
Griffin Internet	(01332) 606 160	info@griffin.co.uk	www.griffin.co.uk	9.00-18.00 Mon-Fri	£14.69*	GX Networks
Newgate Communications	(0121) 327 6633	marketing@newgate.co.uk	www.newgate.co.uk.	9.00-17.30 Mon-Fri	£12.50*	Easynet
Northants Computer Centre	(01604) 22539	tony@nccnet.co.uk	www.nccnet.co.uk	9.00-21.00 every day	£11.75*	Cable Internet / ISPC
Oxford CommUnity Internet	(01865) 856 000	info@community.co.uk	www.community.co.uk	9.00-18.00 Mon-Fri	£37.50 pq	Onyx
Prima.net	(0115) 913 3372	sales@prima.net	www.prima.net	9.00-17.30 Mon-Fri	£11.74*	Cable Internet
Skynet Internet Services	(01604) 452 245	sales@skynet.co.uk	www.skynet.co.uk	9.00-19.00 Mon-Fri / 9.00-17.00 Sat	£11.75*	Cable Internet / ISPC
Stayfree Internet	(0116) 291 0909	sales@stayfree.co.uk	www.stayfree.co.uk	24 hours a day	£5	Wisper
The Internet in Nottingham	(0115) 956 2222	info@innotts.co.uk	www.innotts.co.uk	10.00-17.30 Mon-Fri	£14.69*	Aladdin
The Web Factory (Birmingham)	(0121) 628 6000	sales@webbirmingham.co.uk	www.webbirmingham.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
The Web Factory (Derby)	(01332) 733 233	sales@webderby.co.uk	www.webderby.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
WebLeicester	(0116) 223 0070	nick@webleicester.co.uk	www.webleicester.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
WyeNet	(01989) 762 476	sales@wyenet.co.uk	www.wyenet.co.uk	9.00-21.00 every day	£12	Cable Internet / ISPC
North East						
FirstNet Services	(0113) 294 4224	sales@firstnet.co.uk	www.firstnet.co.uk	9.00-21.00 Mon-Sat	£12.50*	Energis
Legend Internet	(01274) 743 500	sales@legend.co.uk	www.legend.co.uk	8.00-20.00 Mon-Sat	£12.50	Sprint
NetBytes Internet	(0113) 294 4273	info@netbytes.yks.com	www.netbytes.yks.com	10.00-20.00 Mon-Fri	£7.50	Sprint
North West						
Chester Internet	(01244) 341 418	sales@chesternet.co.uk	www.chesternet.co.uk	9.00-17.30 Mon-Fri	£11.75*	GX Networks
Cybase	(0151) 227 4244	sales@cybase.co.uk	www.cybase.co.uk	9.00-17.00 Mon-Fri	£11.75*	Cable Internet / ISPC
Freeway Internet	(01204) 431 313	sales@freeway.co.uk	www.freeway.co.uk	24 hours a day	£12.95*	Wisper
Kencomp Internet	(01539) 722 559	sales@kencomp.net	www.kencomp.net	9.00-17.30 Mon-Fri / 10.00-16.30 Sat	£11.75*	Aspen
Lakesnet	(01539) 731 000	info@lakesnet.co.uk	www.lakesnet.co.uk	9.00-17.30 Mon-Sat	£15	Planet Online
Mersinet	(0151) 475 4751	info@mersinet.co.uk	www.mersinet.co.uk	24 hours a day	£11.75*	Wisper
North-West Net	(0161) 950 7777	sales@nwnet.co.uk	www.nwnet.co.uk	9.00-21.00 Mon-Sat	£10*	Cable Internet / ISPC
RapidNet	(0151) 722 0304	sales@rapid.net.uk	www.rapid.net.uk	9.00-17.30 Mon-Fri	£12*	Cable Internet
Talk 101	(01925) 245 145	sales@mail.talk-101.com	www.talk-101.com	9.00-17.00 Mon-Fri	£11.75*	Wisper
The Internet Shop	(01253) 763 333	black-admin@blackpool.net	www.blackpool.net	9.00-18.00 Mon-Fri	£11.75*	Aspen
Zen Internet	(01706) 713 714	sales@zen.co.uk	www.zen.co.uk	9.00-20.00 Mon-Fri / 10.00-17.00 w/e	£11.75*	BTnet
Scotland						
Ednet	(0131) 466 7003	info@ednet.co.uk	www.ednet.co.uk	9.00-18.00 Mon-Fri	£11.75*	Wisper
Foremost Training	(0141) 566 6377	sales@scotnet.co.uk	www.scotnet.co.uk	8.00-17.30 Mon-Fri	£11.75*	Wisper
The Web Factory (Scotland)	(0141) 418 0880	sales@webscotland.co.uk	www.webscotland.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
TweedNet	(01573) 229 933	mike@scotborders.co.uk	www.scotborders.co.uk	24 hours a day	£17.63*	Scottish Telecom
South Central						
Andover On-line	(01264) 334 822	info@andover.co.uk	www.andover.co.uk	9.00-18.00 Mon-Fri / 9.00-17.30 w/e	£12*	GX Networks
Athene Internet	(01329) 828 000	jdyer@athene.co.uk	www.athene.co.uk	8.30-18.00 Mon-Sat	£13.50*	Wisper
Bournemouth Internet	(01202) 292 900	office@bournemouth-net.co.uk	www.bournemouth-net.co.uk	9.00-17.00 Mon-Sat	£30* pq	Aladdin
CintraNet	(01703) 571 000	accounts@cintranet.co.uk	www.cintranet.co.uk	9.00-17.00 Mon-Fri	£11.75*	Cable Internet / ISPC
Dart Net	(01794) 511 505	sales@dartnet.co.uk	www.dartnet.co.uk	9.00-17.30 every day	£10*	BTnet
Interalpha	(01703) 363 200	enquiry@interalpha.co.uk	www.interalpha.net	11.30-midnight every day	£15*	Aladdin
LDS Technology	(01202) 659 991	sales@lds.co.uk	www.lds.co.uk	9.00-17.00 every day	£14.99*	BTnet
Paradise Network Services	(01256) 414 863	sales@pins.co.uk	www.pins.co.uk	11.00-19.00 Mon-Fri	£9.40*	INS
Supernet	(01534) 880 044	admin@itl.net	www.itl.net	24 hours a day	£14	PSInet
Total Connectivity Providers	(01703) 571 300	sales@tcp.co.uk	www.tcp.co.uk	9.00-18.00 Mon-Fri	£9.99*	VBC / Wisper
South West						
Aspen Internet	(01672) 511 388	admin@aspen-internet.net	www.aspen-internet.uk	8.30-19.00 Mon-Fri / 9.00-18.00 w/e	£10*	VBCnet / Aladdin / Wisper
City Netgates	(0117) 907 4000	info@netgates.co.uk	www.netgates.co.uk	8.00-18.00 Mon-Fri	from £9.79	Wisper
Dataday Computers	(01793) 512 074	sw-1@cccp.net	www.dataday.co.uk	9.30-17.00 Mon-Fri	£14.10*	Aspen
Dorset Internet	(01202) 659 991	sales@lds.co.uk	www.lds.co.uk	9.00-17.30 Mon-Fri	£14.99	UUNET / BTnet
Eclipse Networking	(01392) 202 345	eclipse@eclipse.co.uk	www.eclipse.co.uk	9.00-18.00 Mon-Fri	£9.40*	Cable Internet / ISPC
Gifford Internet Services	(0117) 939 7722	admin@gifford.co.uk	www.gifford.co.uk	11.00-21.00 Mon-Fri / 12.00-20.00 w/e	£8.50	VBCnet
I-Way Swindon	(01666) 860 100	sales@swindon.i-way.net.uk	www.i-way.net.uk/swindon	8.00-18.30 Mon-Fri	£11.75*	VBCnet / UUNET / PSInet
Surfers Paradise	(01635) 569 123	brian@surfersparadise.net	www.surfersparadise.net	9.00-17.00 Mon-Fri	£12	Aspen
SWIS	(01752) 228 700	swis@swis.co.uk	www.swis.net	9.00-17.00 Mon-Fri	£15	GX Networks
Taunton Cyber	(01823) 353 771	info@abling.co.uk	www.taunton-cyber.co.uk	9.00-17.00 Mon-Fri	£9.95*	BTnet
The Web Factory (Wessex)	(01793) 527 725	sales@webwessex.co.uk	www.webwessex.co.uk	9.00-17.00 Mon-Fri	from £12.50	The Web Factory
West Dorset Internet	(01305) 871 543	tim@wdi.co.uk	www.wdi.co.uk	9.00-17.00 Mon-Fri	£15	BTnet
WSS Internet Access	(01793) 420 764	info@WSkiSoft.co.uk	www.WSkiSoft.co.uk	24 hour support	£9.99*	UUNET
Wales						
Connect Wales Internet	(01994) 230 330	sales@connect-wales.co.uk	www.connect-wales.co.uk	8.00-18.00 Mon-Fri	£11.75*	Cymru Net
Cyberstop Interent Services	(01792) 465 050	internet@cyberstop.co.uk	www.cyberstop.net	9.00-17.00 Mon-Sat	£12	Aspen
Telecall	(0117) 941 4141	sales@telecall.co.uk	www.telecall.co.uk	10.15-17.30 Mon-Fri	£11.75*	BTnet / Wisper
Vapro	(01792) 775 511	vapro.sales@vapro.net	www.vapro.net	24 hours a day	£10.56*	Aspen

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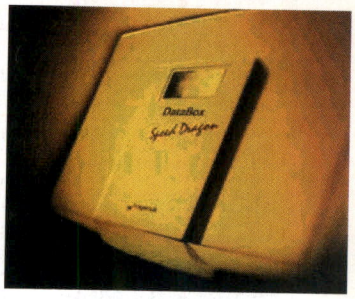
Speed Dragon ISDN Terminal Adaptor



The new **Hagenuk Speed Dragon** is the very latest in ISDN Terminal Adaptors. It combines all of the usual features you'd expect of a TA, plus a full 3-port PBX (call switching system). A front panel LCD displays status information and Caller IDs. The call diversion facility will divert calls to any other number and intercom and three-way calling are supported. The software supports call logging, on-screen dialling & caller ID and full CAPI functionality as well as control over the PBX & comms facilities. See our web page for full details of the **Speed Dragon**.

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Email your submissions to smiley@internet.emap.com

The News of the Strange

Love is in the air

It's been a great month for proving that romance is not dead online: various lovesick emails allegedly sent by Monica Lewinksy have turned up in the world's press. Highlights include her pet names for the non-inhaler himself, Big Creep and F%*@ Face. Nice.

What a catch

Meanwhile, for those following her example and turning to the Net in the quest for love, some interesting research has come to light from the University of Utah. A survey of people posting GSOH-type messages to bulletin boards revealed that the most popular messages are from lonely people who boldly claim to be hugely ambitious, wealthy and working in positions of great responsibility. Proof at last that money and power are the ultimate aphrodisiac. Wouldn't you agree, Ms Lewinsky?

China online

And speaking of cold, emotionless power-crazed tyrants, everyone's favourite human rights violator, China, has gone and got itself online this month. The Great Hall of the People in Beijing now boasts a set of 12 computer terminals hooked up to the Net. What's more, as well as making these available to the 3,000 delegates of the Chinese Congress, a Congress Web site has been set up at **www.china.com/npc/english/index.html**. Content is provided by Xinhua, the official government-sanctioned news agency. Of course.

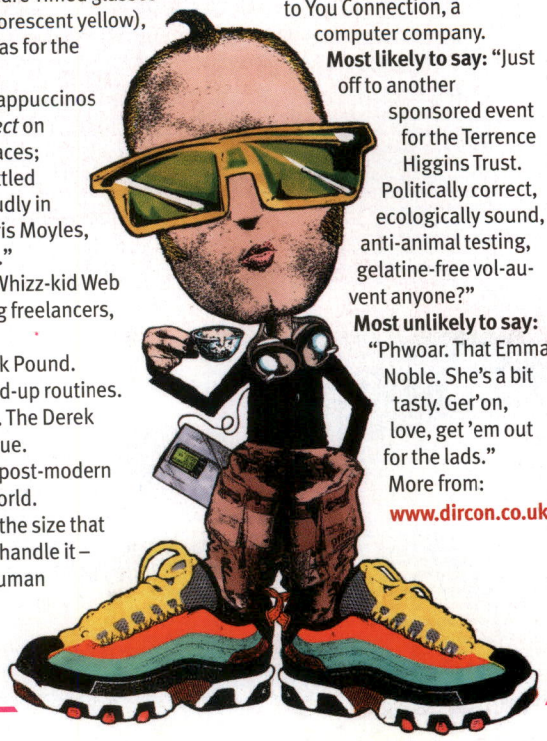
Time to celebrate

Finally this month, the place to be seen was the party to celebrate the announcement of *Time* magazine's Man of the Year, an honour dished out amid true Hollywood glitz. At the ceremony, top guest President Clinton managed, once again, to go down a storm. So congratulations are in order for the winner, Intel chairman Andrew Grove. Shame about the share price, though.

The Smiley guide to Internet users

No 1. The Direct Connection user

Age: Late 20s going on 19.
Appearance: Expensive trainers, combat trousers, square-rimed glasses (preferably tinted fluorescent yellow), heavy make-up. And as for the girls...
Hangouts: Sipping cappuccinos over a copy of *Prospect* on Blackheath café terraces; swilling designer bottled lagers and saying loudly in Soho bars, "That Chris Moyles, he's so post-modern."
Known associates: Whizz-kid Web designers, struggling freelancers, Apple Mac freaks.
Likes: Macs. The Pink Pound. Graham Norton stand-up routines. Doing char-idy work. The Derek Jarman back catalogue.
In other words: The post-modern parents of the ISP world.
Philosophy: It's not the size that counts but how you handle it – you can't beat the human touch.
Latest fad: Laptop love, the Direct Connection online guide to romance; handheld computer games with Web access.
Not to be confused with: Direct Line users, Winchester Archery Direct, Florist to You Connection, a computer company.
Most likely to say: "Just off to another sponsored event for the Terrence Higgins Trust. Politically correct, ecologically sound, anti-animal testing, gelatine-free vol-au-vent anyone?"
Most unlikely to say: "Phwoar. That Emma Noble. She's a bit tasty. Ger'on, love, get 'em out for the lads."
More from: **www.dircon.co.uk**



This month's top 10...

Buttie Sites

With National Sandwich Week verging on the horizon of May we present the ultimate guide to the beauty of the butty, the sensation of the sandwich, the tasty top 10 sarnie sites...

1) The British Sandwich Association

www.martex.co.uk/bsa/index.htm
Stuck for garlic spread? Try Matthews Foods of Ossett, featured in this UK guide to all related to all that's bread-shaped.

2) The Sandwiches

www.visi.com/~sandwich/
The band with the interestingly named Glen the Ape on bass. Evolution, eh?

3) Sandwich recipes

www.saltandpepper.com/html/sandwiches.html
A how-to guide to the perfect William Tell Overture Sandwich and the imaginatively titled Muffaletta. Mind boggles.

4) The Official Sandwich Home Page

www.uc.edu/~littmaa/
A free-flowing exchange of ideas relating to the almighty sandwich. Not only that, but you get the chance to design your own sandwich and swot up on fascinating sandwich facts.

5) Children of the Sandwich Spread

www.stevenpockett.com/sandwichspread/
Includes the sandwich spread 10 commandments: "You shall not commit adultery with the aid of sandwich spread" and so on...

6) The Pocket Sandwich Theatre

www.dallas.net/~pst/
The most fun you can have in Dallas, with a full food and beverage service to boot.

7) Thanksgiving with Reader's Digest

www.rdthanksgiving.com/tasty_traditions/cheesesand.html
A shrine to the beauty of the French-toasted cheese sandwich – only 9g of saturated fat, you know.

8) The Snack of the Week Page

www.far-side.demon.co.uk/piebutty.html
A special edition dedicated to the Pie Butty (pronounced paaah but-tee). The ingredients? Pies, bread, butter and brown sauce.

9) The Bacon Sandwiches – the official band of alt.stupidity

http://pupil.retina.net/~spatula/stupid/bsindex.html
Apparently the Bacon Sandwiches have thrilled and amused about seven people in their 11-year history. That'll be six more than Cast then.

10) Best bites executive lunches

www.bestbites.com/sandwich.htm
Boar's head roast beef club sandwiches, all orders include lettuce, tomato, pickles, plates, napkins, utensils and condiments. Individual bags of chips include Ruffles, Sour Cream & Onion and Fritos. Sodas include...stop, enough already. It's making me hungry.

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2

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*Excludes the cost of circuit rental from your telecommunications provider.

4

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